



ISSN 2560-6034

ENERGY PORTAL MAGAZINE

NR. 27 ■ 2022



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**DUBRAVKA
ĐEDOVIĆ**

Minister of Mining and Energy

Formula for Greater Energy Security

NIKOLA DAŠIĆ

The Mayor of Kragujevac

The Town of Capital Green Investments



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ENERGY PORTAL
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11010 Belgrade

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Publisher:

CEEFOR Ltd, Belgrade

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Print:

Grafostil, Kragujevac

CIP - Каталогizacija 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

Dear readers,

You may be burdened with doubts sometimes, maybe even hopelessness, so you wonder where this world is going. War, energy, financial crisis, numerous cruelties to which a man is unfortunately prone, again and again. Especially when a man measures the world exclusively by his own needs. The media is bombing us with terrifying news from the world, although the domestic news is not at all optimistic. All this only convinces us even more of the hopelessness of the position we find ourselves in... I admit that this often happens to me, too, especially lately. Then all the tales seem idle to me, and even newspaper articles that could perhaps have a positive or at least refreshing effect did not reach me at the right time.

Although I cannot predict in what mood you will take this new Magazine issue into your hands, I still hope you will give our texts a chance. I have no better reason than this: despite everything, there are bright examples in our country. Numerous people, organizations and companies are trying to bring the spirit of change by fighting for a better future for all of us. And you know how difficult it is to make progress no matter what you do.

That's why I invite you to let our stories cheer you up, learn something, and help someone. For example, the next time you want to get rid of a piece of furniture, textiles, or an outdated electrical device, contact the Take away humanitarian service, which will deliver your excess items to a poor group of people who would benefit from them. You will find information on scheduling this free service in the text Take me away.

Maybe there is a dormant organic food grower inside you, waiting for the right moment to awaken an ancient desire. In that case, the example of Pavle Đorđević's life path will be of great use to you. You will find inspiration in the text about him and his garden under the title Love at first sight – Organela.

I offered you a sneak peek at the new issue of the Magazine, and everything else is up to you. And numerous stories await you about campaigns such as "Save food, save humanity", the state of our energy sector, which is not hopeless according to the opinion of respected Professor Nikola Rajaković PhD, then a text about the Environmental Book, investments in solar power plants and Kragujevac, which was declared an eco-municipality in the energy efficiency category.

Finally, I will use Professor Rajaković's assessment and say that there is still light at the end of the tunnel.

Nevena Đukić

Nevena Đukić,
Glavna urednica



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The Formula for Greater Energy Security in Investments, Savings and Responsibility

The last large power plant in Serbia was built 31 years ago, and it was inevitable that our energy sector would face certain problems regardless of the energy crisis in Europe and the world. The total losses in the distribution and transmission grid stand at around 12 per cent annually, which means that investing in the grid's modernization can significantly contribute to improving energy security.



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The Town of Capital Green Investments

With the installation of new gas boilers, 50-year-old coal-fired boilers, which were serious pollutants, were decommissioned, which will greatly improve the air quality in the city area. Everything was done according to the relevant global standards, and the district heating system in Kragujevac can now compete with heating systems in any European city. The benefits of this were felt when the heating season started. The emission of carbon into the atmosphere was reduced by more than 70 per cent.

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Ambitious Goals Accompany Big Changes

The only realistic path to success is the application of proven digital technologies with increased electrification as the fastest way to decarbonize buildings, transport and industry. The advantage of this approach over others is that it buys time to deal with sectors where these changes are more difficult to introduce. All other strategies would overburden consumers and not have a positive effect in an adequate period.

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Serbia Cannot Afford to Give Up on the Green Transition

The key challenge is the unfinished regulatory framework for developing projects that use renewable energy sources. Experience from the previous period tells us that one of the critical factors for the implementation of such projects is adequate regulation, which is the result of a compromise of all key factors – those who make strategic directions and political decisions, system operators (first and foremost, transmission system operators), then investors and financiers.

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Dubravka Đedović,
Minister of Mining and Energy



THE FORMULA FOR GREATER ENERGY SECURITY IN INVESTMENTS, SAVINGS AND RESPONSIBILITY

As long as the energy crisis lasts, maintaining stable energy production while providing enough energy for the domestic market remain the key to securing supply in the coming months. We spoke with Minister Dubravka Đedović, who helms the strategically important Ministry of Mining and Energy, about the extent to which citizens have listened to the Ministry's recommendations regarding energy saving, the Ministry's support for energy-vulnerable households and long-term plans in the energy sector that should help us in the transition to green energy.

EP *We have had quite warm weather in the past period, which is why the heating season started a bit later than usual. Should we still be optimistic about the energy supply?*

Dubravka Đedović Both people and businesses in Serbia have a safe and stable supply of electricity and gas, which is the most important thing. We are importing certain quantities of electricity that we lack, which costs us a lot, in addition to importing coal. In terms of gas, we have a stable supply via the Balkan Stream gas pipeline. In addition to the natural gas storage in Banatski Dvor, we have more available quantities of gas stored in storage in Hungary. Also, the country's crude oil and oil derivatives reserves have increased.

Because the weather in October was somewhat better than usual, we did not have to import electricity, for the most part, that month.

The total losses in the distribution and transmission grid stand at around 12 per cent annually, which means that investing in the grid's modernization can significantly contribute to improving energy security

CCPP PANČEVO – THE FIRST COMBINED-CYCLE POWER PLANT

"Gas-powered plants provide additional security to our power system and contribute to a stable energy supply. For example, in late November, their share in the total electricity production in the country was around 7 per cent. CCPP Pančevo is a new, modern plant that combines the production of electricity and heat and has a high degree of utilization of gas as an energy source. It is important for us that, during the winter, we can also rely on this type of energy to meet the needs of citizens and businesses for electricity. The plan is for CCPP Pančevo to deliver about 1,400 gigawatt-hours of electricity to EPS in 2023, which is enough for the annual supply of about 300,000 households with average consumption. This way of producing electricity is much safer for the environment, and we will work on implementing more solutions like this in the future", Minister Đedović said while explaining the importance of using natural gas, the most environmentally friendly type of fuel.

The Ministry's recommendations on how to save energy during this winter in state and public institutions, local self-governments, businesses and households have already yielded the first results in October. We hope that the same will happen in the coming months. According to the data collated by EPS Snabdevanje, the total consumption of electricity in October was 11 per cent lower compared to the same month of the previous year. Out of 3.37 million households, as many as 45 per cent of them reduced their electricity consumption in October, thus making the largest number of households, around 700,000, eligible for a 30 per cent discount on their electricity bills.

Electricity prices on the market rose significantly in November. We are closely following market developments to react promptly and ensure safe supply at the lowest



price for both individuals and businesses. Also, the state must take care of socially vulnerable citizens who are more affected than others by fluctuations in electricity and gas prices. We will pass a new regulation on energy-endangered customers quite soon, which will ensure discounts for as three times as many citizens as before.

EP *Your Ministry is also drafting strategic plans that, when implemented, will boost the share of renewable energy sources (RES) in the energy mix. Do you think your goals are ambitious?*

Dubravka Đedović We are currently developing the Integrated National Climate and Energy Plan and the new Energy Development Strategy, which will set goals related to the share of RES in total energy production, reduction of harmful gas emissions and energy efficiency. It is important that these goals are realistic and sustainable and that they are an incentive for the development the energy sector and the entire economy, which will align with the green economy principles.

The construction of new facilities that use renewable sources should be coordinated with the development of the electricity transmission and distribution grid so that the development of the energy sector is sustainable, efficient, and economical and leads to a higher degree of energy security and safety. Currently, our RES capacities are around 500MW, not including hydropower plants. In the next few years, we will generate an additional 400MW, primarily from wind energy. We are also working on improving the existing regulation so that, in the medium term,



our system can accommodate eight times higher capacity. We want the energy produced from renewable sources to remain in Serbia, to be used by our citizens, and to export only the surplus. We are working on finding a model that is in the best interest of citizens, and at the same time, sustainable for investors.

EP *Today, RES makes up 26 per cent of Serbia's energy mix, and the plan is to almost double the number of so-called green megawatts. Will our electricity distribution and transmission grid be able to support this?*

Dubravka Đedović Increasing the share of Serbia's energy mix cannot take place at the wanted pace if we do not have a network that can support it. The transmission system is the backbone of the power grid. The construction of the Trans-Balkan Corridor should ensure greater safety and stability of the high-voltage grid, enable new green energy production facilities to connect to the grid, and have a better connection with neighbouring countries. I will continue to work on modernizing the electricity distribution grid, which is the bloodline of our energy system. The total losses in the distribution and transmission grid stand at around 12 per cent annually, which means that investing in the grid's modernization can significantly contribute to improving energy security, i.e. reducing imports.

The average consumption of thermal energy per square metre of a household in Serbia is 2.5 times higher than the average consumption in the EU



EP *Reforming the energy sector will be one of the Ministry's priorities in the coming period. What steps have to be made to achieve this?*

Dubravka Đedović By 2050, we should have invested around 32 billion euros in our energy sector. These are not small funds, and cannot come only from the public sector. Therefore our key energy companies must be efficient and profitable, and their management must act responsibly. Energy companies should ensure energy security both for our companies and citizens, and professional management should help achieve these goals. If the operations of energy companies are

more efficient, we will be able to generate money to invest in developing and improving our energy sector.

The last large power plant in Serbia was built 31 years ago, and it was inevitable that our energy sector would face certain problems regardless of the energy crisis in Europe and the world. That is why the Government's priority in the energy sector is to increase investments significantly. Next year, we will complete the construction of the new 350MW block B3 at the Kostolac Thermal Power Plant, which will boost the capacity of our power system by about 5 per cent and facilitate the process of shutting down the oldest thermal power plant blocks. In the coming period, one of the priorities will be building reversible hydropower plants Bistrica and Đerdap 3, which will stabilize our power system to accommodate new, large renewable energy capacities.

EP *How is the National Household Energy Rehabilitation Programme going, which subsidizes the replacement of doors, windows and furnaces, as well as the installation of new insulation and solar panels in households?*

Dubravka Đedović It's been one year since the National Household Energy Rehabilitation Programme for residential buildings, houses, and apartments was launched. During this period, three public calls for subsidizing the replacement costs by local self-governments were launched. In this way, the state, working together with local self-governments, made it possible for people to replace windows and doors more easily and at lower costs, as well as improve the insulation of their walls and roofs, replace old boilers with more efficient gas or pellet boilers, install heat pumps and solar collectors for water heating or solar panels to produce electricity for their own needs.

After implementing pilot projects last year, as many as 151 local self-governments took part in the third public call in 2022. In total, about 2.66 billion dinars were allocated for the programme's implementation. The plan is for the programme to include about 20,000 citizens. Also, in cooperation with the World Bank and the EBRD, an additional 70 million euros have been secured for these projects to continue, and we expect that around 100,000 households will receive subsidies.

I would also like to note that the average thermal energy consumption per square metre of a household in Serbia is 2.5 times higher than the average consumption in the EU. Therefore, by increasing energy efficiency, we can significantly improve our energy security.

Also, the National Energy Rehabilitation Programme for buildings of public importance is being implemented. Under the programme's auspices, the 8th public call was carried out late last year, and contracts were signed with 38 towns and municipalities. The total value of these projects is 1.12 billion dinars.

Interviewed by: Nevena Đukić

THE TOWN OF CAPITAL GREEN INVESTMENTS

To know who we are today, we need to know who we were throughout history. To quote a man who made his mark on humanity: “History is the witness that testifies to the passing of time; it illumines reality, vitalizes memory, provides guidance in daily life and brings us tidings of antiquities.”
(Cicero)

Throughout its history, the town of Kragujevac has deservedly been called “the first”. Three years after Ottoman rule ended, Kragujevac was declared the capital of the autonomous principality of Serbia. *Novine Srbske*, the first national newspaper whose editor was Dimitrije Davidović, was also published in this city. Today, resting on its tradition, Kragujevac won the competition for the number one eco-municipality in the Energy Efficiency category. To earn the title of eco-municipality, at a time when ecology represents the most important issue for future survival, was not an easy feat. Just before another successful year for this



city ends, we spoke with the Kragujevac Mayor, Nikola Dašić, about the town's impressive successes.

EP *Five half-century-old coal-fired boilers were replaced with new gas-fired boilers in the Energetika heating plant in Kragujevac. How much has the carbon dioxide emission been reduced and what are the plans for the rehabilitation of the ash dump?*

Nikola Dašić The reconstruction and changing energy-generating products in the city's heating plant is one of the most important large-scale projects in Kragujevac. With the installation of new gas boilers, 50-year-old coal-fired boilers, which were serious pollutants, were decommissioned, and this will greatly improve the air quality in the city area. Everything was done according to the relevant global standards and the district heating system in Kragujevac can now compete with heating systems in any European city. The benefits of this were felt when the heating season started. The emission of carbon into the atmosphere was



NIKOLA DAŠIĆ, Kragujevac Mayor, has a bachelor's degree in economics and is also an army officer. He started his career as an assistant chief accountant at the Stari Hrast Company. Later he became a sales manager at the MV

Interkom Company in Kragujevac. Furthermore, he was a platoon commander in the General Staff of the Army of Serbia and Montenegro and director of the collection department in Kragujevac's branch of the National Bank of Serbia. Since 2013, he has been Director General of the Collection Sector and adviser to the Governor for regional supervision in the branches in Kragujevac, Niš and Užice. He is married and has three children.

As of January 1, 2023, all catering establishments are obliged to have smoke, steam and odour removal devices with activated carbon filters

reduced by more than 70 per cent. The next project phase is the rehabilitation of the ash dump that is located on the heating plant premises, which also pollutes the environment as the ash was being scattered all around. We found the best solution in consultations with EBRD experts. The ash will be used as construction material for the construction of 15km of local roads in Kragujevac at the beginning of the next construction season.

EP *The plan is also to reconstruct a part of the hot water pipeline that supplies consumers in the Kragujevac neighbourhoods of Erdoglija, Lepenica and Centar. Did you manage to put that into practice?*

Nikola Dašić As part of the preparations for this heating season, we completed the overhaul of the main heating pipe, going all the way to the city centre. A total of 3.6km of pipes were replaced, which significantly improved the distribution of thermal energy to the neighbourhoods of Lepenica, Centar and Erdoglija.

EP *So far, 14 unregulated landfills have been removed. In what way will waste be managed in the future so that no new unregulated landfills are created?*

Nikola Dašić Due to the negligent disposal of municipal and construction waste, every once in a while, an unregulated landfill is created in various neighbourhoods in Kragujevac. The teams from the Šumadija public utility company remove such waste exclusively by order of the communal inspection. In June, under the auspices of a project implemented by the Ministry of Environmental Protection called

“Joint Forces Against Unregulated Landfills in Kragujevac”, as many as 14 of the largest unregulated dumps were removed. The line ministry allocated more than one million dinars for this purpose.

The workers of the Šumadija public utility company visit the most critical locations in the city every day, where, even after cleaning, municipal waste is dumped again in the same place. The citizens themselves can help a lot with this. Anyone who notices accumulated municipal or bulky, construction waste, can submit a report with the exact location of the dump to the local inspection, which, after the inspection, issues an order to the utility company to clean the location. In order to remove bulky waste faster and more efficiently, the Šumadija public utility company organizes free pick-up of old furniture, doors, windows, and the like, every first and third Saturday of the month, as well as on weekdays, by citizens’ invitation.

On the other hand, it is still impossible to completely prevent the emergence of unregulated landfills, and in this sense, we need to educate the citizens on the one hand, but also sanction those individuals who treat nature irresponsibly.

EP *The city government now also grants subsidies for prosumers. How interested are people in Kragujevac in this option?*

Nikola Dašić In the middle of this year, the Kragujevac authorities, in cooperation with the Ministry of Mining and Energy, launched a public call for citizens aimed at

The Eco-Municipality project is a French-Serbian platform for cooperation on removing challenges in a way to having a sustainable city, by identifying good practices developed at the local level in Serbia and France. The French Embassy in Serbia and its partners Saint-Gobian, Veolia, Decathlon, NALED and SKGO gave out the award to the Kragujevac Mayor.



co-financing the installation of solar panels that would generate electricity in homes. There was a lot of interest shown, and the demand was four times higher than the available funds. 26 households received subsidies, and only one has been connected to the grid so far. Due to such great interest, subsidies are planned for next year as well, and I hope that the funds allocated for this purpose will go up in the future.

EP *A project to replace individual fire pits is also planned. Have you started with the implementation?*

Nikola Dašić We are already implementing this project in cooperation with the Ministry of Environmental Protection. In early contracts, contracts were concluded with a total of 112 households, which are beneficiaries of state and city subsidies for the purchase of individual gas and pellet stoves. The line ministry spent eight million dinars on replacing individual fire pits in Kragujevac alone, while the city government provided two million dinars for this purpose. The amount of subsidies for the purchase of boilers for households was 50 per cent of the cost price. Out of 112 users, 104 opted for a gas boiler, and 8 for a pellet boiler. Of those, 95 households have already acquired the necessary equipment.

After the gas pipe installation in the local district heating system, the problem of pollution caused by individual combustion plants has become dominant. We will invest a lot of effort into dealing with this problem so that our younger generations can have clean air. In terms of air pollution, half the job is done and now the very important second half begins.

EP *You won the Eco-Municipality competition in the Energy Efficiency category and for that, you received recognition from the French Embassy in Serbia. Can you tell us more about the measures you implemented?*

Nikola Dašić Kragujevac competed for the implementation of energy efficiency measures in buildings. Cities and municipalities in Serbia are responsible for financing electricity and heat energy costs, as well as water costs from the city

budget. On an annual basis, we allocated 4 million euros for 200 public facilities. First, we implemented various energy rehabilitation measures for public buildings. In partnership with the Ministry of Mining and Energy, 233 million dinars were spent on energy rehabilitation of five elementary schools, of which the city government provided 137 million, and the Ministry provided 96 million dinars.

EP *Kragujevac's Action Plan entails a series of activities aimed at improving the quality of air, including the goal of having 50 per cent of the town's territory under trees. How do you plan to achieve all that?*

Nikola Dašić As of 1st September, real estate developers that are building either residential or business buildings in Kragujevac are obligated to support this campaign by planting one tree for each apartment or office in their buildings. In terms of industrial facilities, the developers need to plant a certain number of trees per square metre of the facility. Once they plant the required number of trees the Zelenilo public utility company, which operates under the Šumadija public utility company, issues them with a certificate that they need to acquire an occupancy permit. In order to avoid any type of misuse, the acquisition and planting of perennial trees are carried out exclusively by the Zelenilo Company, following the city's greening plan, on the developer's building plot or in public areas.

It is the crowning achievement of all capital green projects implemented in Kragujevac that will ensure a healthier environment. Our city has been developing rapidly in the last five years. New residential and office buildings are springing up at every turn. Last year alone, the line city administration issued almost 1,400 building permits. Our priority is a greener sustainable system and I believe that our local government can lead the way in the region. As of January 1, 2023, all catering establishments are obliged to have smoke, steam and odour removal devices with activated carbon filters. The whole set of activities, investments and decisions are all carried out to facilitate that direction.

Interviewed by: Katarina Vuinac



AMBITIOUS GOALS ACCOMPANY BIG CHANGES

The requirement to move to a sustainable business only a few years ago did not have the same value and importance as it does today. During the height of the energy crisis and with clear indications that more stable solutions must be sought, the transition to sustainable business becomes a true imperative

Schneider Electric has been on this path for many years, and that's why we are talking to Ksenija Karić, director of Schneider Electric for Serbia and Montenegro, about whether the transition to sustainable business can be accelerated and to what extent such a transformation can affect the near future.

EP *Given that time plays a key role, in which segments/industries would it be most rational to switch to sustainable processes?*

Ksenija Karić If you consider that buildings and industries are the biggest consumers of energy, the fastest progress can be achieved with digital efficiency, both in buildings, by introducing sensors and systems for monitoring and control and in the industry with energy management systems. As the biggest consumers of energy, buildings and industry could save incredible amounts of energy, up to 30 per cent, with a quick return on investment of around 5 years. The installation of energy-efficient solutions in office buildings should also not be a matter of long deliberation because all

The only realistic path to success is the application of proven digital technologies with increased electrification as the fastest way to decarbonize buildings, transport, and industry

technologies are already available and can be implemented quickly. According to the data we have for the retail establishments that already use such solutions in Europe, the savings were 23 per cent, and the return on investment was 2–4 years.

EP *Sustainable business has long become a measurable category. How do you measure performance in that field?*

Ksenija Karić According to the SSI program 2021–2025, we committed ourselves to action, divided into six segments,

which are followed by adequate metrics. Since sustainable business cannot be viewed in an isolated context but must refer to all spectrums: social, environmental, corporate and financial, we have divided the operation into six segments. These segments include: acting for a climate-positive world – by continuously investing in and developing innovative solutions that deliver immediate and lasting decarbonization in line with our carbon pledge; developing resource efficiency by acting responsibly and making the most of digital technology to preserve our planet; affirmation of living following our principles of trust by supporting all around us for high social, management and ethical standards; creating equal opportunities, ensuring that all employees are uniquely valued and work in an inclusive environment in order to develop and give their best; harnessing the power of all generations by encouraging the learning, improvement and development of each generation, paving the way for the next generation and empowering the local community by promoting local initiatives and enabling individuals and partners to make sustainability a reality for all.

EP *Is this enough, and does the timing work for us?*

Ksenija Karić Although we are extremely proud of being a recognized leader in sustainable development, these last years have been a reminder that none of this is enough. The goal of reaching zero emission of harmful gases by 2030 is a race against time. According to our company's research, as a basis for staying on track and limiting global temperature rise below 1.5°C, carbon dioxide emissions must be reduced by 30 to 50 per cent in this decade compared to current levels. Without such engagement, it becomes almost impossible to limit global temperature rise below 1.5°C, as presented by the Intergovernmental Panel on Climate Change (IPCC).

The only realistic path to success is the application of proven digital technologies with increased electrification as the fastest way to decarbonize buildings, transport and industry. The advantage of this approach over others is that it buys time to deal with sectors where these changes are more difficult to introduce. All other strategies would

When we reduce our goals to numbers, we have committed to, by 2025:

- • 80 per cent of our income is green, today we are at 71 per cent
- • we save our customers 800 million tons in CO₂ emissions, savings to date amount to 407 million tons
- • 100 per cent of our packaging is made of recycled material, and without the use of single-use plastics, we are now at 41 per cent
- • provide access to green energy for 50 million people, today we are at 37 million



Ksenija Karić,
director of Schneider Electric for
Serbia and Montenegro

“We already know that if we start investing in a smart decentralized energy system now, we can create a significant change in the next five years,” Ksenija Karić says

overburden consumers and not have a positive effect in an adequate period.

Despite the importance of the current moment in which the importance of sustainability is recognized and the fact that an increasing number of companies are adopting ambitious goals in terms of combating climate change, the need for acceleration is more than clear. At Schneider, we strive to be part of the solution and to support organizations in their pursuit of gradual decarbonization and the fulfilment of climate change strategies. We are accelerating the expansion of our consulting services globally to respond to the growing need for significant progress in the energy transition and climate change goals. We have made big changes with our wide network of partners and this experience tells us that many companies are ready for new industries and positive changes. However, they need a trusted partner who combines strategic planning and goal setting in accordance with proven results in the implementation of solutions to achieve faster and more visible results.

Interviewed by: Milica Marković



A PROFITABLE AND SAFE INVESTMENT IN THE CONSTRUCTION OF A SOLAR POWER PLANT

The new Law on Renewable Energy Sources (RES), and state subsidies for the purchase of solar power plant equipment created the prerequisites for a real market boom. Both individuals and companies have shown great interest in solar power, so the jump in sales of solar panels and construction of solar power plants is almost expected. According to the data collated by the Ministry of Mining and Energy, the prosumer status has been approved for about 5MW of new solar power plants, while almost a hundred megawatts are in the process of obtaining this status. We spoke with Miroslav Lutovac, the energy adviser to the president of the Chamber of Commerce and Industry of Serbia, about financial benefits for companies with prosumer status and whether the RES Community model is more profitable.

EP *With the passing of a new energy&mining law and bylaws, the prerequisites for companies to build solar power plants as prosumers to cut their business costs have been met. How willing are companies in our country to make such changes?*



MIROSLAV LUTOVAC graduated from the Faculty of Electrical Engineering in Belgrade, majoring in energy, and has worked for numerous companies in the power sector, including public company Elektroprivreda

Srbije, Schneider Electric and others. He has been working for the Chamber of Commerce and Industry of Serbia since 2016, and since 2019, he has been an energy adviser to the Chamber's president.

Miroslav Lutovac There are two basic reasons why companies and households in Serbia decide to invest in constructing a solar power plant to meet their own needs – financial and environmental benefits. Of course, financial well-being is a decisive factor including an acceptable return on investment period of 5 to 6 years and minimal operating costs, i.e. maintenance costs. All this makes the investment very attractive. Practically, this means that you can fulfil your electricity needs for about 25 years, which is the estimated lifetime of the power plant, by paying in advance the total energy spent during this period at a price that is four times lower than the current price.

The prerequisites and procedures are significantly simplified for individuals who want to build a solar power plant to meet their own energy needs

A less favourable methodology applies to legal entities, that is, companies. It means that the price of surplus electricity delivered to the power grid is lower than the company originally paid for. Despite this, the interest is high, and it will certainly be even greater as the market price of electricity increases.

EP *The law, for now, allows the establishment of associations or Communities, enabling small producers to organize and offer surplus electricity generated from renewable sources to the market. What are previous experiences with these communities?*

Miroslav Lutovac Members of a Renewable Energy Sources Community (Community, for short) can be natural or legal persons (provided that the production of energy from renewable sources is not their main or predominant activity), local self-governments or other types of local governments. The main goal of forming the Community is using renewable energy sources to meet the needs of its members. By uniting a number of smaller renewable energy sources, the Community can become a relevant participant in the electricity market, directly



or through an intermediary. In this way, the Community members have better financial benefits.

As far as I know, two Communities have been formed so far, but there are initiatives by various companies to create several more such associations. It is too early to talk about the achieved effects, but we expect the Community model to be more profitable than the prosumer model.

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EP *Lack of rain this summer reduced electricity production in Serbia's hydroelectric power plants. Is the operation of thermal power plants jeopardized by these unfavourable circumstances?*

Miroslav Lutovac Hydropower plants account for about 30 per cent of the annual electricity production in the country. The operations of hydroelectric power plants directly depend on precipitation. In this sense, in addition to precipitation, it is also of great importance that the inflow is not extreme (periods of heavy precipitation and periods of severe droughts). This year was quite dry, although the situation improved considerably in November. We can expect with great certainty that, this year, hydropower plants will generate electricity whose quantity is significantly below the multi-year average. In addition to the reduced production from hydroelectric power plants directly contributing to the increase in the average electricity generation price, low inflow greatly affects the flexibility of the power system and to some extent, its stability and reliability.

EP *How can low water flow threaten thermal power plants, and what is the current situation with water flow?*

Miroslav Lutovac Large amounts of water are needed for the normal operation of thermal power plants. Our largest thermal power plants, in Obrenovac and Kostolac, use

You can fulfil your electricity needs for about 25 years, which is the estimated lifetime of the power plant, by paying in advance the total energy spent during this period at a price that is four times lower than the current price

water from the Sava and Danube rivers. Water from rivers is pumped in by special water supply systems, which have suction baskets lowered into rivers at the entry end. When the river level is very low, i.e. close to or at the level of the suction baskets, the operation of the water supply system must be stopped to prevent damage. It causes a thermal power plant to suspend its operations.

The current hydrological situation is such that the river level does not threaten to the safe operation of thermal power plants. With the drop in temperature, inflow will also decrease in the following period, but critically dangerous river levels that could threaten the operation of thermal power plants are not expected.

EP *The Chamber's Energy Association strives to involve representatives of the scientific community in working with companies so that they can use their know-how and innovations to improve the operations of the business sector, so it becomes more efficient and successful. Are you already noticing certain benefits from such a combination?*

Miroslav Lutovac For a long time, the Chamber of Commerce and Industry of Serbia has been engaged in building a stronger connection between science and business. We had a number of thematic gatherings aimed at promoting the latest scientific achievements to help businesses improve their operations in terms of technology, energy efficiency and optimal use of alternative energy sources.

We are trying to change the approach. Instead of science developing its own solutions and looking for potential

We can expect with great certainty that, this year, hydropower plants will generate electricity whose quantity is significantly below the multi-year average

One of the participants was the Mihajlo Pupin Institute, which presented its two original, innovative solutions. One of them has already been applied in practice (in agriculture) with very positive comments from users, especially in terms of profitability.

EP *Do you think that citizens have recognized the benefits of using solar energy?*

Miroslav Lutovac The new legal framework largely regulates the exploitation of renewable energy sources and the construction of related facilities. By prescribing rules and procedures, the legislator has greatly amplified the interest of both households and businesses. Along with direct and indirect subsidies, these benefits contributed to making the investment in constructing a solar power plant profitable and safe.

I believe it is very important that the prerequisites and procedures are significantly simplified for individuals who want to build a solar power plant to meet their own energy needs. Bearing in mind that this is a population that, as



users, we motivate the business community to turn to science for help with their problems and requests.

So far, the results have been humble and more of an exception than the rule. However, a few days ago, we hosted a gathering on the topic of solar power plants, where we encouraged about fifteen companies that are engaged in the construction of solar power plants to present their solutions and opportunities to potential clients (more than 100 representatives of interested companies were present).

a rule, does not have strong technical knowledge, the response so far is more than encouraging.

To a large extent, it is significant to note that many companies engaged in the construction of solar power plants have decided to offer turnkey services. In this sense, assistance to investors in obtaining the required consents and permits from line institutions is of inestimable importance.

Interviewed by: Katarina Vuinac



IT IS NECESSARY TO INTRODUCE MORE ENERGY- EFFICIENT TECHNOLOGIES

To contribute to the reduction of the carbon footprint by using energy from renewable sources, the company A1 Serbia installed more than 3000 solar panels. It became the first telecommunications company on our market whose network infrastructure relies on this technology. Sustainability, along with the quality of the A1 network, which has been declared the fastest mobile network in Serbia for the second year in a row, will be imperative to preserve both the top user experience and the environment.

EP *The Austrian group A1 Telekom, the owner of the company A1 Serbia, has committed to achieving carbon neutrality by 2030 through a gradual transition to renewable energy sources, reducing the carbon footprint and increasing energy efficiency. Why is it important for Internet service providers to turn to green energy?*

Dejan Turk The telecommunications industry is not a big polluter. It is responsible for only 3.7 per cent of global CO₂ emissions. However, it is a large consumer of electricity, being a provider of the Internet and solutions based on its use. Not surprisingly, this 3.7 per cent is predicted to double in the next three years. The need for connectivity at

all levels are growing. To meet these needs, it is necessary to introduce new technologies, such as 5G, which are more energy efficient.

Preservation of the environment has not been a matter of choice for a long time. I believe that everyone, both industry and individuals, can contribute to efforts to make the world a healthier place to live today and for future generations. With this in mind, we have set ourselves a new quality parameter related to sustainability. We are building a sustainable network whose quality is internet access speed, reliability and coverage, and the careful use of natural resources. This approach enables the further expansion of our infrastructure while at the same time achieving higher energy efficiency and lower energy consumption, increasing efficiency and the possibility for optimization.

EP *What concrete steps have you taken in implementing the ESG strategy on the Serbian market?*

Dejan Turk Since July of last year, we have been using 100 per cent green electricity to power the mobile network, devices, and infrastructure. Thanks to this, we reduced CO₂ emissions by 19 per cent in 2021.

This year we went one step further. We have started installing solar panels at all our base stations where there are conditions for it. We currently have close to 3 000 solar panels, and the plan is to install more than 2 500 new panels by the end of next year. We are also planning to install solar panels at our Data Center in Kragujevac because radio base stations and Data Centers have the greatest impact on the total electricity consumption. I am proud that we are pioneers among operators in this field, because currently we are the only ones in Serbia using solar panels to supply part of the network infrastructure with electricity. Bearing all this in mind, we expect significantly better results this year than the previous one.

EP *What does A1 Serbia's socially responsible strategy look like in accordance with ESG goals in the field of environmental protection?*

Dejan Turk Contribution to solving the problem of air pollution, and protection of natural resources and biodiversity are imperative in our

Since last July, we have been using 100 per cent green electricity to power the mobile network, devices and infrastructure

business. I will mention only some of the projects that contribute to the preservation of the environment, whose development and implementation we supported through our social responsibility platform "The World You Want" – the association "Bašta može svasta" launched the first organic garden. The Internet Society of Serbia launched a project for the development of devices for air quality measurement "Klimerko", there is also a project of a sanatorium for protected species of wild birds in the environment of Bačka Topola Agricultural School, which the school initiated, and the action "Serbia without illegal landfills" which is dedicated to the reduction of illegal landfills in Serbia.

EP *What are you planning for the next period?*

Dejan Turk Sustainable business is important to us in the long term. Accordingly, we will strive to make our operations and business decisions "green" in the future. As a company that intensively positions itself as an ICT provider, we strive to help businesses to improve their operations by relying on digitization. Enabling digital transformation also provides the opportunity to promote a sustainable future both by supporting other industries to achieve carbon neutrality and by driving change internally to reduce carbon dioxide emissions through our operations. Certain effects are already visible since the need for trips and the emissions associated with them have decreased due to the possibility of conducting video meetings. In this and a wider context, the next big thing is the introduction of the 5G network.

Interviewed by: Milena Maglovski



DEJAN TURK came to the position of general manager at VIP mobile (now A1 Serbia) in 2014 and soon took over the director position of the new organizational unit "Serbia and Slovenia" within the Austrian group A1 Telekom.

He is the winner of many prestigious awards, and he is the president of the Forum for Responsible Business, the vice president of the Council for e-Governance of NALED and the Council of Foreign Investors (FIC) and a member of the Board of Directors of the Serbian Association of Managers. He is also a member of the Supervisory Board of A1 Telekom. In his spare time, he enjoys sailing, skiing and diving.

We are building a sustainable network, the quality of which is not only internet access speed, reliability and coverage but also the careful use of natural resources



PIONEER OF SUSTAINABLE BUSINESS IN THE TRANSPORT SECTOR

A tradition of more than 500 years, 180 branches worldwide and more than 8,000 employees, these data alone would be enough to capture a picture of the importance of Gebrüder Weiss, Austria's oldest transport and logistics company. Last year alone, they delivered 16.3 million goods by land, transported more than 168,000 standard shipping containers by sea, and 77,000 tons of goods by air. However, the most important thing is that they are aware of their economic and social responsibility and therefore provide their clients with solutions that save resources

With its sustainability strategy GWcares, Gebrüder Weiss has set a goal to reduce carbon dioxide emissions to zero. By 2030, logistics facilities owned by the company should be climate neutral.

In this way, the company contributes to the global climate goals. And to achieve the targets, Gebrüder Weiss closely monitors carbon dioxide emissions at all 180 locations. The company's current emissions and energy consumption levels were presented in its Sustainability Report. The survey results show that emissions are gradually decreasing at a rate of 10 per cent per year.

The sustainability report also outlines essential measures to be taken in the quest for climate neutrality and ways our modern logistics facilities can harness all possibilities available for saving energy and reducing dependence on limited resources.

Installing photovoltaic (PV) systems on the roofs of logistics terminals has a vital role, with 18 such installations already existing at Gebrüder Weiss. Together, these installations generate more than 4,600 megawatt hours of electricity per year and currently meet 18 per cent of the

**Gebrüder Weiss already has
18 photovoltaic systems that generate
more than 4,600 megawatt hours of
electricity per year and currently meet
18 per cent of the group's electricity needs**



group's electricity needs. The aim is to increase this share by 15 per cent each year by expanding the number of PV installations. Gebrüder Weiss has also installed an energy monitoring system at its locations in Europe to track the effectiveness of these efforts and plans to deploy it worldwide in the coming years.

Investments in alternative drives

Gebrüder Weiss is also increasing the share of alternative drives in heavy-duty transport and developing low-emission solutions for the last mile. In the Greater Vienna metropolitan area, an electric truck is used for short-distance transport, and deliveries are made to end customers in Austria using electric vans. On top of this, one of the world's first hydrogen (H₂) trucks has been in regular operation in Switzerland since January 2021, and there are plans to deploy five more H₂ trucks in Germany in 2023. Gebrüder Weiss also works with partners and competitors in Austria to introduce fuel cell trucks. The company intends to invest around ten million euros in alternative drive systems by 2025.

Further information on Gebrüder Weiss' activities in sustainability can be found here: <https://sustainability.gw-world.com/sustainability-report-2021/>

Prepared by: Milena Maglovski



THERE IS NO PROFIT IF THERE IS NO CONSUMER TRUST

By launching initiatives aimed at achieving a net zero emission rate by 2050 in the countries in which it operates, Nestlé has been actively fighting climate change. In 2010, the company pledged to fight against deforestation. Thanks to their socially responsible and educational campaigns, such as the 2020 campaign called “Nestlé Saves Nature”, they have been drawing the public’s attention to the importance of responsible water and plastic use and waste management, with a special focus on the proper management of food surpluses. We spoke with Milica Milanović, Corporate Affairs Manager at Nestlé Adriatic, about the support that this company provides in the preservation of natural resources.

EP *Estimates show that two million kilogrammes of food are thrown away in Serbia every day, and it is currently more profitable to destroy expired food instead of donating it because you don't have to pay VAT if the food is destroyed. In 2021 and 2022, Nestlé donated more than 70 million dinars worth of its products to vulnerable groups throughout Serbia through various charity activities and campaigns. Does social responsibility come before profit?*





MILICA MILANOVIĆ,
Corporate Affairs
Manager at Nestlé
Adriatic, graduated in
journalism from the
Faculty of Political
Sciences but found
herself in public relations.
She gained experience

working in PR agencies, media, banking sector, and the White Palace. Since 2019, she has been dealing with corporate communications and CSR projects at Nestlé.

Globally speaking, by 2025, Nestlé will have invested 1.2 billion Swiss francs in implementing regenerative agriculture to reach zero greenhouse emissions by the same year

Milica Milanović They are inseparable. Today, no brand can be profitable if it doesn't win over consumer trust, and the trust is built by investing in the preservation of the community. The quantity of wasted and destroyed food is huge, which directly impacts CO₂ emissions, while about half a million people in our country live on the edge of poverty. Something is not right.

As part of the general circular business model, we have established a system that manages excess products. In cooperation with food banks and other organizations throughout Serbia, we regularly donate our products to vulnerable groups. However, the paradox is that charity has become expensive, so small producers, despite empathy, cannot afford to give gifts but instead have to destroy their products. On VAT on donations, we have been working with our industry peers – the Responsible Business Forum and the Chamber of Commerce and Industry of Serbia. Recently, the Ministry of Agriculture, Forestry and Water Management organized a panel discussion where we talked about this important topic. Everyone is aware that a change in regulation is necessary, and I believe that it will happen in the coming period.

EP *Nestlé supports 500,000 farmers worldwide in implementing regenerative agriculture. In Serbia, in 2021 and 2022, Nestlé invested 140,000 Swiss francs in local production processes carried out in line with the regenerative agriculture principles. How does this work, and what exactly is regenerative agriculture?*

Milica Milanović Regenerative agriculture practices, which, among other things, include afforestation, reduced tillage and planting of cover crops, have recently been implemented in our country, thanks to the programme that Nestlé implements globally with its suppliers. The companies Telek Paprika and Geneza from Kanjiža, the largest suppliers of vegetables used in our famous Začin C (Spice C), have been using organic fertilizer instead of artificial one since last year, thus protecting the soil from erosion with rows of trees and planting different crops to get better yields and healthier vegetables, but also to preserve natural resources for future generations.

Soil rich in organic carbon is more fertile, has greater biodiversity and is a better water filter, improving surface and groundwater quality. Regenerative agriculture practices simultaneously bring positive economic effects, resilience to climate instability, and prosperity to agricultural communities.

Globally speaking, by 2025, Nestlé will have invested 1.2 billion Swiss francs in implementing regenerative agriculture to reach zero greenhouse emissions by the same year. It is interesting to note that, despite people initially thinking that production is responsible for most of our emissions, close to 70 per cent of greenhouse gas emissions come from agricultural activities of our suppliers, i.e. before a raw material even reaches Nestlé. Nevertheless, we assess our influence through the entire supply chain. By recognizing agriculture as a key segment, we decided to invest in our



WHAT IS NUTRI-SCORE?

Nutri-score is a nutritional value label that classifies food and beverages according to their nutritional profile in five categories – on a scale from A (recommended for consumption more often or in larger quantities) to E (recommended for consumption less often or in smaller quantities). This way, a holistic understanding of the nutritional quality of the product is ensured.

Locally, Nestlé has added a Nutri-score to our Začin C (Spice C), all Nestlé cereals, C Super soups and the Garden Gourmet portfolio to make it easier for consumers to make informed choices for better nutrition. In the same way, Nestlé will add a mark to every package that it will change. The company has decided to add a label to the front of the package to be even more transparent and help its consumers optimize the types and amounts of food they consume.



suppliers so that they can continue to apply regenerative agriculture independently over time.

EP *Your new plant-based food factory in Surčin will adhere to the latest environmental standards in the industry, will use renewable energy produced by hydro-power plants, will not generate municipal waste and will treat wastewater immediately in its own wastewater treatment facility. When is the factory going to be commissioned?*

Milica Milanović The factory's construction is going according to plan, and we are nearing its end. We expect the start of production in the first half of next year. The same standards of sustainability that you mentioned earlier and

Today, no brand can be profitable if it doesn't win over consumer trust, and the trust is built by investing in the preservation of the community



that we apply in our existing plant in Surčin will also apply to this factory. Nestlé is the first food company to reach the goal of producing zero waste for landfills, which means that it does not send a single ounce of waste to landfills, but rather recycles it or uses it for other practical purposes, such as the production of fertilizers, biofuel or eco-insulation boards. The new plant will produce meals from the Nestlé Garden Gourmet range, which are an adequate substitute for meat in terms of their nutritional value.

EP *Why is it important to focus on plant-based food?*

Milica Milanović This is not food only for vegetarians, as is commonly presumed, but for anyone who wants to make more environmentally responsible food choices because fewer greenhouse gases are emitted in the production of vegetable proteins. This brand is part of our company's mission to offer simple solutions that will facilitate daily choices in the direction of a more correct and sustainable diet without compromising on taste. Also, we use locally grown soybeans in production, so we plan to include soybean producers in the regenerative agriculture project.

Regenerative agriculture practices include, among other things, afforestation, reduced tillage and planting of cover crops



EP *Nestlé also implements the Let's Grow Up Healthy project and has launched a cookbook called "Let's Eat Healthy". Could you elaborate on these projects?*

Milica Milanović Developing healthy habits in children is not easy and requires a lot of patience and dedication. For twelve years, we have been supporting parents in this endeavour through our Let's Grow Up Healthy programme in partnership with the Serbian Association of School Sports and Dr Milan Jovanović Batut Public Health Institute. As part of the project, students learn about the basics of proper nutrition, its planning and improving habits while teachers in schools conduct educational workshops. We also pay special attention to parents who learn about the project at the parents' meeting dedicated to this topic. So far, over 120,000 children from Serbia have completed the programme.

At home, parents should make an effort to prepare food together with their children because it has been proven that if their children are involved in the preparation of healthy meals from a young age and if their parents set a good example, they are more likely to maintain good habits when they grow up. Our [Healthy eating plate](#), a digital chart showing which foods and quantities are needed for proper development, can help them with this. If they run out of inspiration for preparing healthy meals, there is our digital [Let's Eat Healthy cookbook](#) with healthy recipes. Both are part of Nestlé's efforts to support parents and society in disseminating knowledge about proper nutrition and optimal amounts of food to consume to prevent food waste and environmental pollution.

Interviewed by: Milica Marković



BANKS CAN CHANGE BOTH THE WORLD AND AWARENESS

The current climate situation requires reduced emissions of harmful gases to stop the increase in the average global temperature above 1.5 degrees Celsius compared to the pre-industrial level.

To find a straightforward solution to the challenges we are facing, we need to go back to the beginning and understand the cause that led us to the problem we are fighting against.

Everyone can reduce their carbon footprint by changing their lifestyle and consumption habits

What is the carbon footprint?

Every human activity leaves a carbon footprint. Put simply, the total amount of greenhouse gas emissions produced directly or indirectly by people, organizations, events and companies is a carbon footprint. Its quantity measures our impact on the environment and climate change.

Carbon footprint represents the sum of all emissions of carbon dioxide and other gases that retain heat in the atmosphere, causing global warming, and which humans cause by their actions over a certain period.

As a guideline for the fight against these adverse effects, the European Union has set an ambitious goal – carbon neutrality by 2050. To reach the set goal, the Fit for 55 set of regulations and measures was adopted to accomplish the goal of a 55 per cent net reduction in greenhouse gas emissions by 2030.

Everyone can reduce their carbon footprint by changing their lifestyle and consumption habits, such as reducing the use of cars that run on fossil fuel, using renewable energy sources, consuming more sustainable products, and making smarter use of living and working space. And that's just a small part of the changes we can implement.

Companies, institutions, governments and large organizations are the ones that should make the greatest effort but also show others by example how positive changes can occur. That is why many of them strive to do responsible business, which puts environmental protection and the reduction of greenhouse gas emissions in the foreground.

Responsible business as a choice

ProCredit Bank gives a good example of this practice. The Bank contributed at the Group level by reducing its share of carbon dioxide by 56 per cent between 2018 and 2021. This was achieved by using solar energy, monitoring electricity and heat consumption, banning single-use plastics in business premises, and purchasing electric and plug-in hybrid vehicles, with the goal that all vehicles in the Bank's fleet will emit zero CO₂ by the end of 2022.

The Bank has been doing business responsibly for decades because it takes responsibility for assessing the environmental impact of not only its own but also the activities of its clients on the environment and society. Thanks

The Bank contributed at the Group level by reducing its share of carbon dioxide by 56 per cent between 2018 and 2021

to dedicated work, ProCredit Bank is recognized as a green transition leader in Serbia.

ProCredit Bank's every activity must be verified as sustainable, which is why the Bank works on planning and optimizing procedures to save resources almost daily.

The fact that all the Bank's operations must not have an impact on the environment, which is why the Bank will never lend to someone whose activities negatively affect the environment, regardless of the profitability the business brings, demonstrates just how committed the Bank is to achieving the set goals. Thanks to a careful and prudent approach to credit risk analysis and avoiding making compromises for the sake of profit, ProCredit Bank has a stable and strong loan portfolio.

The constant education of employees about sustainable and responsible business and environmental protection ensures additional stability and security. The Bank works every day to transfer everything they apply to their clients and train them how to make their business sustainable.

Prepared by Milica Radičević

EXCLUSION LIST

Non-crediting clients who are involved in environmentally and socially risky activities.

CARBON NEUTRALITY

Between 2018 and 2021 we reduced the group's own CO₂ emissions by 56%.

20% GREEN INVESTMENTS

The group's green portfolio in 2022 is 19% of the total portfolio.

SUSTAINABLE SUPPLY CHAIN

Sustainable materials and suppliers.

GREEN TRANSPORTATION

Installation of public electric chargers in all our countries of operation.

CARBON ACCOUNTING FINANCIALS (PCAF)

GHG emission report of the loan portfolio.

NO SINGLE-USE PLASTICS

An internal and external strategy that includes putting single-use plastics out of use.

E-MOBILITY

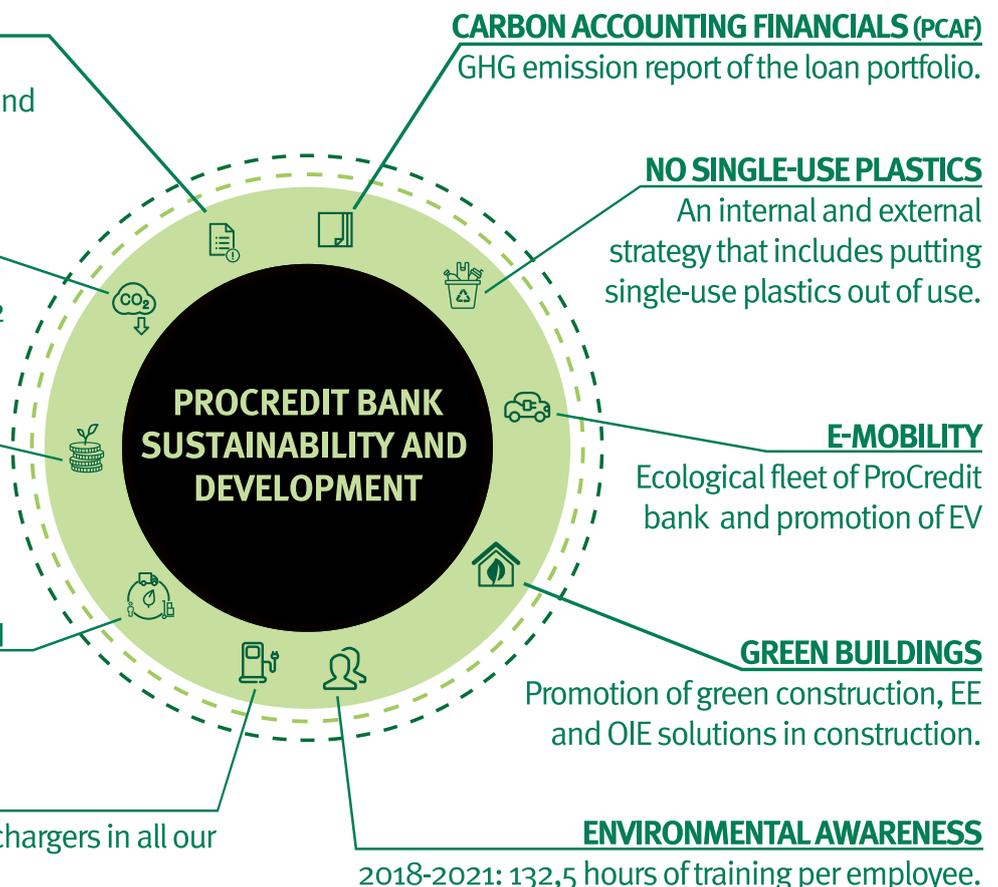
Ecological fleet of ProCredit bank and promotion of EV

GREEN BUILDINGS

Promotion of green construction, EE and OIE solutions in construction.

ENVIRONMENTAL AWARENESS

2018-2021: 132,5 hours of training per employee.



SERBIA CANNOT AFFORD TO GIVE UP ON THE GREEN TRANSITION

Renewable energy sources (RES) have long been a prerequisite for energy, economic, and thus national stability, while the ongoing energy crisis has further highlighted the need for green investments. However, as the transformation of the energy sector is much more than just switching from fossil fuels to renewable energy sources, it is necessary to adjust the regulatory framework so that complicated procedures are avoided and potential investors can easily decide to build RES power plants in the future

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We talked with Peter Mitrović, a lawyer who heads the regional industrial group Energy and Natural Resources at the Karanović & Partners Law Firm, about how the legal framework regulating renewable energy sources can be improved in order to expedite and promote Serbia's energy transition.

EP *You have been helping your clients to develop, implement and finance new energy projects with an emphasis on renewable energy sources. Since the green sector is still developing, what challenges do you face?*

Petar Mitrović At the moment, the key challenge is the unfinished regulatory framework for developing projects that use renewable energy sources. Experience from the previous period tells us that one of the critical factors for the implementation of such projects is adequate regulation, which is the result of a compromise of all key factors - those who make strategic directions and political decisions, system operators (first and foremost, transmission system operators), then investors and financiers.

As of recent, this kind of compromise has been lacking. The conceptual divergence of the Ministry of Mining and Energy, as the creator of the Renewable Energy Sources Law, and the EMS resulted in the fact that, from April 2021

Relevant sources say that energy security in Europe can be ensured in the long run only through greater integration of renewable energy sources.



to date, we do not have a rounded regulatory framework for the development of renewable energy projects. And so, from a solid law, that everybody expected a lot from, we fell into a period of stagnation, and every stagnation is actually a regression.

We still don't know what the balancing system will look like. The law provided some frameworks, but the by-laws that were supposed to be elaborated on were not adopted. Now, admittedly, we are increasingly hearing announcements that the law will be changed to prescribe that, even before the establishment of a liquid intraday market, producers of electricity from renewable sources will be fully responsible for the balance.

Another unknown is how and under what circumstances new projects will be connected to the transmission system. The basic prerequisites for announcing an auction for awarding premiums to solar and other power plants, except for wind farms, have not been created. As for wind farms, the maximum "incentive" price is set but this is an incentive only for EPS, which certainly could not be the basic idea.

The state has no influence over many circumstances, such as the war in Ukraine, overall inflation, rising financing costs and disruptions in the supply chain. However, if the key stakeholders agree on the strategic directions for the development of our power sector, and I think they are obliged to do so, then this challenge, arising from an incomplete regulatory framework, can be overcome.

EP *If the unfinished regulatory framework is the main challenge or the main obstacle, how can you and your clients overcome it?*

Petar Mitrović The circle of opportunities has been narrowed down to constant appeals for the activities on this topic to finally start. Along with that, or perhaps better said within that, we have been making constructive suggestions through various professional associations regarding the direction that these activities should take.

As far as other challenges go, by default, they differ from project to project. These include a lack of planning documentation, issues of environmental impact assessment, complicated and unresolved legal issues regarding ownership, delay in issuing various permits, unfounded requests and inconsistent practice of authorities. Yet, while the challenges are different, the answer is often the same - let's find a compromise solution. Experience from previous projects, as well as experience from the region and Europe, helps a lot in this. But the key prerequisite is to listen to each other.

EP *Are you optimistic about the further development of RES projects in Serbia and the region, or do you think that because of the energy crisis we are slowly reverting to fossil fuels?*

Petar Mitrović I would say that the crisis did something completely opposite - that in the long term, it gave additional wind to the sails of the green transition. As never



PETAR MITROVIĆ is a partner who heads the regional industrial group Energy and Natural Resources at the Karanović & Partners Law Firm. He advises clients on important issues related to the development, management and financing of new energy projects (with a special focus on renewable energy sources), and participates in projects aimed at improving the regulatory framework and energy efficiency in the Western Balkan countries (WB6). Petar is recognized as a leading lawyer among clients and colleagues, ranked in all relevant legal directories and is an active member of all key professional associations in Serbia. Currently, he is a member of the Working Group of the Ministry of Mining and Energy for the adoption of by-laws for the implementation of the Law Renewable Energy Sources, in which he represents AmCham Serbia.



before, energy security has become an unquestionable prerequisite for national security. As a limited and short-term response to the crisis, decisions are occasionally made that could be interpreted as Europe reverting to fossil fuels, but I think that such an interpretation is deeply flawed and often extremely malicious. Relevant sources say that energy security in Europe can be ensured in the long run only through greater integration of renewable energy sources. And Europe will certainly not give up on that. We can see that the pace of activities in this segment is picking up.

I would say that the same relates to Serbia. This does not mean that coal-fired power plants should be shut down tomorrow. But in the long run, there is no doubt that abandoning the green transition would cost us dearly, in terms of security, health and economics. Because of this, I am confident that a framework will be created in this country to foster the development of renewable energy projects on a larger scale than ever before.

Interviewed by: Milena Maglovski



FAREWELL TO LASER PRINTERS

Proof that Epson is dedicated to inkjet printers can be seen in the recently launched series called WorkForce Enterprise, which is part of the 40-6ppm AM series. This printer series uses Piezo-Heat Free inkjet technology and thus completes Epson's portfolio of business products in A3 format. While Epson's offer of multifunctional printers with heat-free technology is expanding, at the same time, this company is announcing the end of the production of laser printers

Epson's new products bring static printhead technology to the mid-range market, simplifying the sales process and ensuring end users have the best product in line with the Sustainable Development Goals.

Unlike laser technology, inkjet technology requires less energy, and thanks to its simple design, it curbs the resources used during production and delivery. These printers are smaller, easily fit into offices and save space. Thanks to high-capacity cartridges, there is no need for frequent replacement of consumables, nor additional transport, storage and waste disposal costs.

The mentioned products are a significant shift in Epson's printing strategy and support the company's commitment to sustainability. The launch of the new products also coincides with the company's decision to transition entirely to inkjet technology and to end global sales and distribution of laser printers by 2026. This comes a year after Epson announced an investment of more than 693 million euros in innovation in sustainable development. This investment move was due to the inability to make a significant change in laser technology so that less heat and, therefore, less energy is used.

With fewer moving and spare parts to replace over the printer's life compared to laser ones, the need for Epson inkjet service and maintenance is reduced, as is the number



business web portal on [clean energy](#)

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- Attachable outer booklet finisher – for stapling, hole punching, envelope printing, and a variety of folding options

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of printer downtimes, thus improving productivity and user satisfaction.

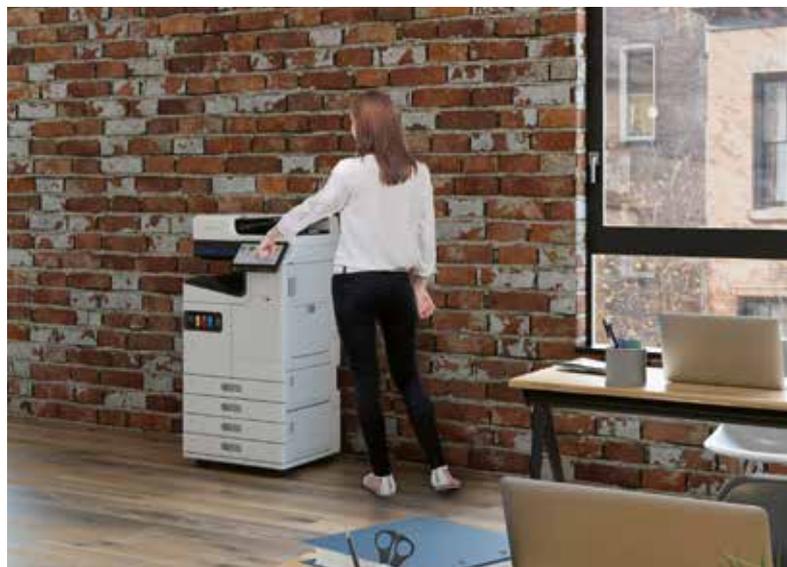
Ana Bajagić, marketing manager for the Balkans at Epson Serbia, says that the company's current portfolio of business inkjet printers is completed with the new WorkForce Enterprise AM series.

ABOUT EPSON

Epson is a global technology leader dedicated to its goal of becoming a go-to company for connecting people, things, and information with its original, efficient, compact and precise technologies. The company is focused on innovating and exceeding customer expectations in inkjet technology, visual communications, wearables, and robotics. Epson is proud of its contributions to the development of a sustainable society and its continuous efforts to achieve the United Nations Sustainable Development Goals.

Led by the Japanese corporation Seiko Epson, the international Epson Group achieves annual sales of over one billion Japanese yen. global.epson.com

More about the 2050 Environmental Future Vision on eco.epson.com.



“We can respond to every customer request, whether from small work environments or large organizations that require fast systems. Whatever the function or printing demand, we have the right product. With a full range of support, through *Managed Print Services*, *Workflow* and *Remote Service* solutions, these products are easy to maintain, are of top quality and reliable, and, above all, make a sustainable printing system,” Ana adds.

Prepared by: Milena Maglovski



WHEN WE SAVE FOOD, WE SAVE HUMANITY

Did you know that nearly one-third of grown and produced food on the planet is thrown away or wasted? It means that almost 1.3 billion tonnes of food are never consumed. To reduce the volume of food waste in the European Union (EU), its members have been measuring food waste volumes in all phases of the food supply chain since 2020. This October, Eurostat announced the first statistical monitoring results regarding food waste volumes in the European Union per sector in 2020

It is necessary to encourage cross-sectoral cooperation to reduce the amount of food that is wasted and to increase the amount of food that is donated, in addition to improving the tax treatment of food donations

According to the data, in 2020, the first year of the COVID-19 pandemic, nearly 57 million tonnes of food waste was generated in the EU, or around 127 kilogrammes per inhabitant. Household food waste is twice the size of the waste generated by the sectors with strategies for food waste reduction, including primary food production and processing, food retail, distribution, etc. According to Eurostat, households in the EU generate 55 per cent of food waste, accounting for 70 kg per inhabitant. The remaining 45 per cent is waste generated upwards in the food supply chain.

The United Nations Environment Programme estimates that 2 million kilogrammes of food are wasted daily in Serbia. On the other hand, according to the latest data, 446,000 individuals cannot meet basic living needs. It is necessary to encourage cross-sectoral cooperation to additionally promote the reduction of waste food volumes and increase donated food, in addition to the improvement of the tax treatment of food donations. To that aim,

the Coalition for Giving, including the Ana and Vlade Divac Foundation, Trag Foundation, Smart Kolektiv, Catalyst Balkans, Serbian Philanthropic Forum, CSR Forum and Chamber of Commerce and Industry of Serbia, supported by USAID, launched the “Save food, save humanity” campaign, marking the National Day of Giving in 2021. The campaign’s relevance has been recognized by numerous individuals and 50+ organizations, companies, and media outlets.

The campaign has been highly successfully presented this year, with 112,047 kg of food collected for the most vulnerable individuals across the country in both cycles, thanks to a synergy of civil society organizations,

Food that is about to expire is incinerated, causing additional carbon dioxide emissions and negatively affecting the environment



We waste 2 million kilograms of food a day, while 446,000 people can't meet the basic needs of life



companies, citizens, and media, with the campaign continuing until end-November.

“In the year of celebrating our 55th anniversary of operation, we have helped the most socially vulnerable individuals through donations to the Food Banks Belgrade, Vojvodina and Niš, within the “Save food, save humanity” campaign. In addition to donating our food, we have also provided media space to support the campaign and raise public awareness regarding the issue of excessive food waste in the most effective manner”, said Ivan Jovanović, Corporate Communications Manager in Bambi. He added that he was particularly glad that, as a member of the Coca-Cola Hellenic Group, we have approached this project together, expressing solidarity in donated volumes of food and drinks.

Through a range of activities, such as crowdfunding campaigns, food donations by producers, donation boxes in stores of the largest retail chains, zero banking fees for donations for purchasing staples for the vulnerable, the “Save

food, save humanity” campaign has managed to demonstrate the relevance of joint and synergy action, focusing public attention on the necessity to tackle both issues – insufficient food donations and need for preventing food waste. In promoting this charitable campaign, the media have proven to be much-appreciated allies. The speed and intensity of messages and ideas for rational food consumption reaching every individual in our country largely depend on their understanding and support.

There is a saying in our country that time is money, but we are not sufficiently aware of the value of the food we waste, as it can be directed to the most vulnerable social groups while still safe for consumption. Therefore, it is important to be constantly reminded that food must not be wasted, that we should help one another, and that any food waste is a waste of resources and money. Furthermore, it is important to note that food with a short expiration date is burned, causing additional carbon dioxide emissions and affecting the environment. From that perspective, rational food management also confirms sustainable and responsible treatment of nature.

Therefore, we invite you to join us in the mission of increasing food donations and against food waste in Serbia at www.spasimohranu.rs.



BOFFETTI, GLOBALLY RENOWNED QUALITY FROM THE ALPS

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Three plants of the Italian company Boffetti are strategically located few kilometers away from both Milan and Bergamo, as well as from the main airports. In their production facilities, R&D department and test laboratories, initial suggestions and conceptual designs evolve into thoroughly elaborated projects for highly demanding energy plants. Still, what the Boffetti company stands out for is the fact that they can offer everything that is needed for the implementation of one project, and all under one roof

We make complete facilities which balance production and consumption of electric energy in a flexible manner



The Italian company Boffetti has been in business since 1982, and their longstanding experience allows them to be involved today in every phase of the energy projects. With Edoardo Boffetti, the Sales and marketing engineer at this company, we talked about the long way they have come from manufacturing switchboard and other apparatus to engineering and commissioning various plants on land and at the sea, while using renewable energy sources and smart networks.

EP *You can offer everything for the implementation of one project. What does that include exactly?*

Edoardo Boffetti We can provide development of technical solutions, conceptual design, then we can deliver the equipment, place fixtures, do the commissioning and further maintenance. As you can see, when you rely on one company to do all the work that means that the project

finish line will be reached sooner and the desirable outcome more attainable.

EP *In the manufacturing sector, there is also wide production range.*

Edoardo Boffetti Yes. Since 2007, we have been applying acquired knowledge in production too, such as switchboards, apparatus, components for electricity distribution and numerous other products. We have developed different variety of products to cover all the functions required by modern electrical and industrial systems. The products are also certified by independent bodies (CESI, ACAE, SGS) which are in line with IEC standards.

EP *How do you apply the circular economy principles?*

Edoardo Boffetti The biggest advantage of our products is their design which allows easy disassembling at the end of their lifespan, enabling for each one of their components to be fully recycled afterwards. All materials are catalogued according to their ecological impact in order to facilitate collection, recycling, decontamination and transfer to specialized and certified companies. Finally, I have to point out that all our products are designed and made completely in our production facility in Italy. However, through our sales and service network we are present in the markets of Europe, Middle East, Asia, Africa and South America.

EP *How does that path from an idea to project implementation look like?*

Edoardo Boffetti Primarily, we offer technical consultancy, then we set out to make the best solution, with economic estimation of supply. After that, we get down to integration of products and equipment, make analysis of the project development and workflow, and right at the end we deal with commissioning and plant certification. For numerous clients we have done engineering of the big, complex facilities, building electric and instrumental plants, providing support, organization of expert teams and specialized technicians, procurement of main material and equipment, technology integration and training the operators. We are especially

Last, but not least, I would like to mention that the Boffetti company has been operating in Serbia since 2018, and we have been working on very important projects.

Photographs: Boffetti



Eng. Edoardo Boffetti,
Sales Department

proud of being able to offer specific projects at land and at the sea, as well as in potentially explosive hazardous areas, thanks to our well-trained and certified personnel.

Additionally, we provide global service which is available to our clients 24 hours a day. It includes plant maintenance, activities in state of emergency, support through installation phase, commissioning or fault-free operation and continuity of service.

EP *Have you already been involved in project in renewable energy sources?*

Edoardo Boffetti We are witnessing continually high demand for electric energy. We are aware that it is necessary to integrate as much as possible renewable energy sources into electrical distribution network. I say, if we want generated amount of electric energy to meet all our needs while at the same time reduce its negative impact on environment, we must produce electric energy from renewable energy sources as much as we can. Thanks to decades-long experience in distribution networks construction, we have the skills and abilities to make the complete facilities which balance production and consumption of electric energy in a flexible manner. We were involved in the projects for smart networks development that aimed to increase the energy share coming from renewable energy sources that is delivered to the grid. Also, we built two solar power plants for supplying our facilities with electric energy, in Chignolo d'Isola and Bonate Sotto (BG) with a respective capacity of 200 kWp and 1 MWp.

EP *Do you believe that a company strength lies as much in their products as in their people?*

Edoardo Boffetti Of course. We strongly believe in human capital, so we provide training and work on promoting talents in our employees. The development of the new products is delegated to our skillful technicians who work closely with clients using the top-notch technologies for design, simulation and testing. When it comes to innovative projects, we always rely upon advices provided by the prestigious universities, including Polytechnic University of Milan.

Interviewed by: Nevena Đukić





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KLP

Rain harvesting system

Solar shading systems

Solar plant for DHW

Hit pumps with eco friendly refrigerant fluid

BMS
(system for measuring and controlling electricity and water consumption)

Built according to the **gold LEED certificate**





Grundfos

Solar power plant, 900 kW

Geothermal heat pumps
(140 probes/125m, 3,5 MW cooling power)

Solar shading systems

WWTP- wastewater treatment plants

Rain harvesting system

BMS
(system for measuring and controlling electricity and water consumption)

Electric car charges

GOLD LEED
(certification process)



Lidl

Rain harvesting system

Solar plant for DHW

Solar shading systems

BMS
(system for measuring and controlling electricity and water consumption)

Electric car charges

The first facility in Southeast Europe that received
PLATINUM LEED certificate





RESPONSIBILITY TOWARDS NATURAL RESOURCES AND THE COMMUNITY

According to the United Nations, 2019 was the second warmest year on record. Global carbon dioxide emissions have increased by nearly 50 per cent since 1990. Almost every day, nature is warning people

There has been an increasing number of public appeals to stop or slow climate change. The United Nations adopted 17 Sustainable Development Goals, which are a kind of call to action to create a more prosperous world where all residents will have a dignified life, economic progress, access to natural resources and peace. A significant number of these goals relate to fostering a responsible attitude towards natural resources, the availability of energy sources and industrial innovations that help protect the environment. Accordingly, companies from the energy sector are increasingly finding themselves in the spotlight as representatives of an industry that should provide a significant contribution to decarbonization and the reduction of greenhouse gas emissions, as well as decisively contribute to environmental protection and economic progress, while supporting the development of the community in which they operate.

TE-TO Pančevo, a gas power plant that will generate heat and electricity at the same time was recently commercially commissioned

For the NIS Company, one of the leading energy corporations in Southeast Europe, this dilemma does not exist because sustainable development principles are the basis of all the company's business processes. By embarking on an energy transition, NIS has been contributing to achieving the UN's Sustainable Development Goals for years. Furthermore, the company is a pioneer in our country regarding reporting on sustainable development. The first verified Report, compiled following the Global Reporting Initiative (GRI) standards, the world's leading organization in the segment of sustainable business, was published by NIS in 2011. Since then, every year, the company has informed the general public about its business activities and socially responsible programmes transparently. In

Opening a deep processing unit at the Pančevo Oil Refinery ensures the production of larger quantities of the most valuable fuel in the market. It has significantly reduced the emissions of sulfur dioxide, nitrogen compounds and powdery substances

agenda for years. For NIS, sustainable development implies economic progress with sustainable use of natural resources and activities that, in addition to positive business effects, also provide significant results in terms of environmental protection. Thus, since 2009, NIS has invested around 900 million euros in environmental projects and projects that significantly improve nature's protection. One of the examples is a deep processing unit at the Pančevo Oil Refinery worth more than 300 million euros. This complex ensures the production of larger quantities of the most valuable fuel in the market. It has significantly reduced the emissions of sulfur dioxide, nitrogen compounds and powdery substances. Thanks to this and a series of other environmental investments, the Pančevo Refinery became the first energy plant in Serbia to receive an integrated IPPC permit, which validates that all production processes comply with the highest domestic and European environmental standards.

Through the use of innovative technology, NIS also contributes to the fulfilment of the UN Sustainable Development Goals. Thus, TE-TO Pančevo, a gas power plant that will generate heat and electricity at the same time was recently commercially commissioned. Electricity is distributed in the Serbian power grid, by which NIS additionally contributes to the country's energy security. In contrast, energy is produced from gas, which is a more environmentally friendly energy source.



its sustainable development reports, NIS recognizes 12 of the UN's 17 Sustainable Development Goals, which the company fulfils in its operations. These are good health, quality education, gender equality, clean water and sanitation, accessible and renewable energy, dignified work and economic growth, industry, innovation and infrastructure, sustainable cities and communities, responsible consumption and production, climate action, life on Earth and peace, justice and strong institutions.

To contribute to the decarbonization process, the NIS Company has been dedicatedly implementing its green

NIS employees also actively participate in numerous environmental campaigns and initiatives. In late 2021, the NIS Volunteer Club members took part in planting 500 sycamore and maple trees in the vicinity of the Pančevo Oil Refinery. Environmental activities were the focus of the Volunteer Club throughout 2022. In the coming period, NIS will be ready to make a full contribution to the accomplishment of the UN's Sustainable Development Goals while being fully aware that, in this way, the company is also contributing to the better environmental image of our country.

Prepared by: Nevena Đukić



CORPORATE SOCIAL RESPONSIBILITY AS PART OF BUSINESS STRATEGY

Since its inception, Eurobank Direktna has been providing continuous support to local communities where it successfully operates. It has been investing in projects and initiative in segments such as health, ecology, education, culture, and social inclusion. From 2003 to date, Eurobank Direktna has invested more than 4.8 million euros in these segments through carefully devised programs and various projects to support the community. As part of its business strategy in Serbia, the Bank focuses on projects aimed at relevant stakeholders, clients, employees, and partners. For almost 20 years, the Bank has been the pillar of trust and stability for its clients and the community where it operates.

The Bank brings cultural events to schools in partnership with the Laguna publishing company and the House of Jevrem Grujić Museum

Since 2018, with the support of the Republic of Serbia's Ministry of Education, the Bank has been implementing an independent project called "School Designed for You" to improve working and learning conditions in high schools for economics in Serbia. From every purchase that clients make with the Veliko Srce Mastercard credit card issued by Eurobank Direktna, the Bank sets aside funds from its income and directs them to equip and modernize high schools for economics throughout Serbia. In almost five years since this project of Eurobank Direktna was launched, 12 computer cabinets in ten towns in Serbia have been equipped, and more than 10 million dinars have been allocated for these purposes.

Another fact that proves that the project "School Designed for You" not only focuses on equipping classrooms and school cabinets and donated required equipment is that, through this project, the students at these schools are also given the opportunity to acquire knowledge and lead a much richer cultural life. The Bank brings cultural events to schools in partnership with the Laguna publishing company and the House of Jevrem Grujić Museum. Through interactive lectures given by the museum curator, they learn about local culture and literature and can go on a virtual

museum tour. Also, writers Vanja Bulić and Branko Rosić have had guest appearances at these schools to enhance the project further.

In addition to this important project that ensures high-quality education for high school students in Serbia, Eurobank Direktna is also involved in several other activities implemented by organizations and institutions throughout Serbia. The Green Serbia project, which the Color Media Communications Company has been realizing for the second consecutive year, is only one in a series of projects that the Bank supports. The Bank's employees participated in the planting of trees in the Ušće Park, including linden trees, Japanese cherry, and catalpa bignonioides. The project aims to facilitate environmental protection and raise awareness of the importance of planting greens and afforestation in Serbia.

"Earth Hour" is a global campaign that gathers millions of people worldwide who, every year, turn off all their lights for an hour to raise awareness of the importance of preserving nature and saving energy. Eurobank Direktna has been

participating in this initiative for years. From its inception, the Bank has advocated environmental protection and resource conservation and strived to reduce the negative impact on the environment. Also, the Bank's headquarters in Belgrade is in the so-called smart building, which was built in line with the latest ecological standards.

This fall, too, Eurobank Direktna joined the "Save Food, Save Humanity" initiative launched by the Coalition for Giving. Also, it eliminated its commissions on all donations from individuals and companies, paid into a specially opened



From 2003 to date, Eurobank Direktna has invested more than 4.8 million euros in these segments through carefully devised programs and various projects to support the community



account on the National Day of Giving, intended for the purchase of basic food packages for the most vulnerable citizens.

For its special contribution to this campaign, Eurobank Direktna received a plaque from the Serbian Philanthropic Forum. Also, the Bank's numerous socially responsible activities during the last two decades have been awarded the most prestigious domestic recognitions, demonstrating once again that Eurobank Direktna is a pillar of trust in the community in which it operates.

COP27
SHARM EL-SHEIKH
EGYPT 2022



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NECESSARY RESOURCES SHOULD BE DIRECTED TOWARDS THE GLOBAL SOUTH

The twenty-seventh United Nations Conference on Climate Change COP27 was held this November at the Sharm El Sheikh International Convention Center in Egypt. The Conference is also unofficially called the African COP27 because it focuses on a major problem facing the population of Africa. This continent was hit by major climate disasters this year, and its share in global CO₂ emissions amounts to only about 3 per cent.



Speaking about the African continent's problems, the Conference participants made important decisions for the African population. The United States has announced more than \$150 million supporting Africa's climate change adaptation. On this occasion, the USA, the European Union, and Germany also announced a US\$-500-million-package to finance and facilitate Egypt's transition to clean energy. An initiative related to the transition to fair and affordable energy in Africa was also adopted. The initiative has three main goals providing affordable energy by 2027 for at least 300 million Africans and increasing the share of electricity generation from renewable sources by 25 per cent by 2027. Furthermore, Norway and Egypt embarked on the first phase of a project to build a large green hydrogen power plant of 100MW capacity.

Gender inequality and climate change have given birth to an initiative aimed at ensuring that African women

The World Health Organization stated that by 2050, half of the world's population will live in areas that will face a lack of water



Photographs: COP27

APPEALS FOR CAPPING TEMPERATURE RISE AND ABOLISHING COAL-BASED ENERGY

The Intergovernmental Panel on Climate Change (IPCC) indicated that greenhouse gas emissions must be reduced by 45 per cent by 2030 to limit global warming to 1.5°C. Immediately before the Conference's official opening, information was published which said that if the trends continued, the planet's surface would have warmed up by 2.8°C by the end of the decade.

After the Conference, governments were invited to increase and review the 2030 goals in their national climate plans by the end of 2023 and invest more effort into phasing out the use of coal energy and inefficient fossil fuel subsidies.



receive part of the budget intended for retraining employees in the green transition, increasing the number of women working in science, technology, engineering and mathematics and boosting investments in green businesses run by women. Data shows that women and children represent 80 per cent of people in need of assistance after a climate disaster and that poor women in rural areas are 14 times more likely to lose their lives during a natural disaster.

The Conference also focused on nature-based solutions, following which an initiative was launched to secure up to 2.4 billion hectares of healthy and sustainable agricultural ecosystems, as well as to significantly increase global mitigation efforts through the protection and restoration of terrestrial, freshwater and marine ecosystems that are rich in carbon. The United States has announced \$15 million in aid to protect the Red Sea's coral reefs, which are home to the most divergent biodiversity and are among the last living reefs. Therefore, their preservation is so important.

The World Health Organization stated that by 2050, half of the world's population will live in areas that will face a lack of water, which is directly related to climate change, be it drought, floods, or water pollution, which is why the initiative was launched to support efforts to adapt the most vulnerable communities and ecosystems in Africa to these problems. The closely related issue of feeding 8



Norway and Egypt embarked on the first phase of a project to build a large green hydrogen power plant of 100MW capacity

billion people, especially those in the most susceptible areas, led to the launch of four initiatives related to the urgent transformation of the agricultural and food system, considering climate change, ensuring food security, and improving the quality of life of the most vulnerable population in Africa by 2030, with deliveries of healthy food.

Although a significant portion of the Conference has been devoted to the problems that Africa is facing, climate change is not sparing the rest of the planet either. The main discussions at this year's Conference also touched upon reducing greenhouse gas emissions and limiting the increase in global temperatures to 1.5°C compared to the pre-industrial period.



However, the decision that the issue of “losses and damage” related to the provision of financial assistance will be included in the Conference’s agenda received the biggest attention. Highly developed countries should help the poor and developing countries most affected by climate change’s consequences. Difficult negotiations related to this topic and the request to establish a special fund to help poor countries most affected by climate disasters led to the Conference being extended for one more day.

Although some important issues remained unsolved, COP27 ended positively, with a decision to establish a fund for developing countries.

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NEW LIFE FOR OLD THERMAL POWER PLANTS WITH CEEFOR

Although we might not be able to measure Serbia's energy transition in hundreds of megawatts of new RES capacity every year, we can certainly talk about the country making continuous progress, which, although it might seem slow to some, certainly proves its resolute will to transform its domestic power system.

Although the Electric Power Industry of Serbia (EPS) still relies on coal, for the most part, the idea to shut down certain thermal power plants (TPP) and build solar ones instead is approaching realization.

The winner of the last year's tender for the drafting of a study based on which solar power plants will be built at the coal-ash ponds of TPP Morava in Svilajnac, and TPP Kolubara A in Veliki Crljeni was the renowned domestic company CEEFOR, which has been designing solar power plants for more than 10 years.

Isidora Mladenović, one of the 11 engineers working for the company CEEFOR who were engaged in drafting the study, guided us through this process immediately after the study was submitted to EPS.

According to her, the project lasted precisely one year and was implemented in four phases. EPS' initial plan was

to shut down the two power plants mentioned above and build solar power plants on their sites.

After analyzing the locations and potential of the available surfaces, solar radiation, and temperature in the study's first phase, the CEEFOR team estimated that the full surface capacity of TPP Morava was 45MW and 71MW of TPP Kolubara A.

Similar solar power plants in the world were considered when drafting the study, including the solar power plant built in 2015 on the ash pond in Visonta, Hungary. The 16MW facility was the largest solar power plant in Hungary at the time and the largest energy concept in Central Europe that relies on renewable energy sources.

A 4MW solar farm was built on the surface of a former coal mine in Saarland, Germany. The German company BayWa r.e. developed the project in 2012 to utilize an exhausted coal mine for energy production. This process

brings numerous benefits to the owners of power plants and mines, bearing in mind that it has been estimated that the costs of converting such sites into solar plants are much lower than using them for other purposes, such as the development of agriculture or tourism.

Similar projects have been implemented in Belgium, Poland, England, the USA, France, China, and other countries, which proves that the domestic power-generating industry is not lagging behind the rest of the world.

EPS plans to initially build two solar power plants, each with 10MW power, so the second and third phases of the study focused on this pilot project.

The best solutions come from CEEFOR

The other two study phases covered a complete technical, construction and electrical solution for two potential solar power plants. An economic and financial analysis of the profitability of the mentioned 10MW capacity was also included.

As Isidora Mladenović explained to us, in the case of the solar power plant at the Morava thermal power plant site, the expected annual production will be 13,850,589 kWh. At the same time, the return on investment is estimated at 8 years and 11 months.

The reduction of carbon dioxide emissions will amount to 270,094 tonnes annually, and the money saved from reduced emissions will amount to close to 22.6 million euros.

In terms of TPP Kolubara A, Mladenović presents similar figures - the expected annual production of the power plant will amount to 13,627,597kWh. At the same time, the return-on-investment period is estimated at close to 9 years and savings at 3 million euros.

The CEEFOR team proposed EPS, a fixed photovoltaic system, considering that such a system proved to be the optimal solution from the production aspect and that it corresponds to the solar potential in the local climate. Also, this system is easy to use and maintain and generates a decent income from power plant production.

Given that EPS agreed to the photovoltaic panels being fixed, the shadows cast by the rows of panels mutually affect each other. To reduce the impact of shadows and thereby avoid losses in the power plant's production, the distance



Isidora Mladenović,
Electrical Engineer

Similar projects have been implemented in Belgium, Poland, England, the USA, France, China, and other countries, which proves that the domestic power-generating industry is not lagging behind the rest of the world

between all rows of panels was set at 4 metres, which facilitates the minimum permissible impact of shading.

It is proposed to use modern photovoltaic panels with a maximum power of 640-665W, whereby twenty panels will form one chain (string). Nine chains, or 180 panels, will be connected to one 100kW inverter. The total number of inverters will be 100, while the total number of panels will be 18,000, says Mladenović.

“The entire study is an innovative project, the first of its kind in Serbia, whereby the available and unutilized areas of the ash pond would be used to construct solar power plants and produce green energy. Examples of similar regional projects were of great importance to us,” said our interlocutor.

She adds that with this study, CEEFOR's portfolio is now enhanced with another unique experience which creates the opportunity to build a solar power plant on a hitherto unknown type of land.

“We also owe special thanks to our peers from EPS, with whom we had excellent cooperation throughout the entire process of drafting the study, as well as to their colleagues from other services who contributed to the successful completion of the study and all accompanying procedures,” Isidora Mladenović says for Energetski Portal.

Prepared by: Milena Maglovski



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ENVIRONMENTAL BOOK



In 2019, she first turned her love for writing, nature, and children into the fairy tale “Sounds of the forest”, and this autumn, her second book, “Environmental book”, was published. The book was written with the desire that children should not perceive it as a textbook but be encouraged to search and explore further. The content is divided into chapters on water, air, forests, earth, energy, ozone layer, sound, and animals, both those in nature and those in distress, whether abandoned or in zoos and circuses. The text is accompanied by interesting facts from all over the world, and to get the little ones more interested, Katarina gave the chapters interesting names such as Air – it’s not good when we see it, Sound – noise is not in vogue or Ozone layer – let’s patch it together.

“Environmental book” is a natural sequence of what I have been doing for a long time, what I am fighting for and what I believe in. I try to inform children, not to educate them but to give them new ideas with the hope that they will teach their parents and the elderly in general so that together we can heal what can still be healed on our planet,” Katarina said.

The book is intended for elementary school students, but even the younger generations have started reading it. As the author states, it is important for parents to read the book with their children, to bring the material closer to the peculiarities of each child, their age, knowledge, interest, and creativity. The reader is accompanied by illustrations, which can help younger children understand the text and think through visualization. Although children at that age cannot understand every piece of information written in the book, Katarina says that it is important that they connect with ecology in different ways every day because this will develop empathy towards nature in their subconscious.

Children were particularly interested in the tasks at the end of each chapter, which tell them what they can do to contribute to the preservation of the planet. This interactive moment of the book contributes to the fact that children at that age are aware that each individual has their own role and that we must not hand over the fight for nature to someone else.

“When I write for children, I wake up my inner child, which rarely sleeps for that matter, and it seems to me that when I put myself in children’s shoes when I create, it is not difficult to make reading interesting for them”, said Katarina, explaining how she adapts a very serious topic to children. In addition to love, due to the responsibility of writing such a book, professional knowledge is also needed, which is why her friends with knowledge in biology, ecology, pedagogy, veterinary science, and children’s literature participated in its creation.



KATARINA MAJIĆ, from Arilje, is a mother of three and lives in Belgrade. Although she has worked as a supervisor at the National Bank of Serbia for almost two decades, she points out that her first love is ecology and activism. When

she realized that it is most valuable to weave ecology into children’s hearts because they will be entrusted with the fight for a healthy planet, she took up the pen and wrote two children’s books

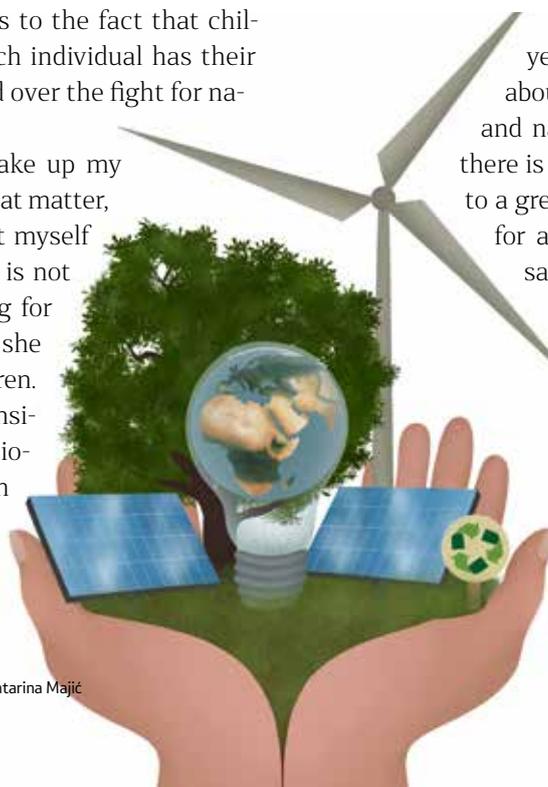
To round up the environmental story, the book’s special edition was printed on recycled paper, and not just any kind. We are talking about paper produced manually, according to an ancient Japanese technique from empty cigarette packs in a social enterprise, “Naša kuća”. This organization was founded at the initiative of parents of children with developmental disabilities.

Katarina is a post-graduate student to confirm a Master’s degree at the Faculty of Political Sciences, majoring in Environmental Policy. She is a member of the environmental associations for the protection of the Rzav River and the Zvezdara Forest, the “Society for the Protection and Study of Birds of Serbia”, as well as the informal associations “Šljunkara” and “Women’s Green Power”. She initiated various actions and participated in numerous activities that led to the defence of the Zvezdara Forest and other green areas, as well as one aged chestnut tree. She is also proud of all the struggles she led with her like-minded fellows, in which they failed, because, as she says, those struggles are even more important.

“Ecology and the fight for nature have been my everyday life for many years. In addition to writing for children about ecology, I teach children about birds and nature in general. It seems to me that there is not a day in which I am not dedicated to a greater or lesser extent to some struggle for a green area, a tree, a river,” Katarina said and added that she feels best in the forest, next to the river and with her hands deep in the ground.

In the end, the author of “Environmental book” called on the youngest to always trust their hearts, and to lead their parents and all of us, adults, to a better tomorrow in which our planet will be protected and peaceful thanks to them.

Prepared by: Katarina Vuinac





THE **charge&GO** NETWORK IS EXPANDING!

If it seems to you that the development of electromobility in our country looks like a comical situation in which you either have a can or an opener, you are not far from the truth. Owners of electric cars, no matter how many there are in Serbia, and word has it that there are as many as 900 registered, both new and used, are constantly searching for information about newly installed chargers. At the same time, charger owners are eagerly waiting for a larger number of electric vehicles to get closer to the planned profitability margin of their business.

It will be enough to make a small overview to determine how electromobility is developing in our country. Not until seven or eight years ago, there were almost no public chargers, and several companies decided on a visionary approach. Hence, they installed chargers in their parking lots to enable the planned replacement of their fleet with electric vehicles. Of course, there were only a few dozen electric cars back then.

Today, things look a bit better. If you look at the map on plugshare.com today, you will see dozens of charging locations in our country. However, changes in the transport sector and the way of using means of transport are yet to come. Undoubtedly, the focus will be on developing a

network of electric vehicle chargers to enable the transition to sustainable transport.

The company Charge&GO, as a leader in the development of electromobility in Serbia, is currently working on expanding its network of chargers. Installation of chargers is currently underway at all locations of the Stop Shop retail chain. From the beginning of August, drivers of electric vehicles can stop by the Stop Shop in Sremska Mitrovica, Lazarevac, and Požarevac and recharge their batteries. A 120 kW charger is available in the Stop Shop parking lot in Vršac, while a 60 kW charger is available to visitors of this retail chain in Zaječar.

It is expected that chargers ranging from 24 to 120 kW will soon be put into operation in Čačak, Subotica and Smederevo, and by the end of the year at other Stop Shop locations throughout Serbia.

Fast and ultra-fast chargers can be found on the map of the Charge&GO network at GAZPROM gas stations, as well as at four toll points on the highway near Vrčin, Horgoš and Trupala-Niš.

The easiest way to access chargers is the Charge&GO app, which allows electric car drivers to charge their vehicle, make a payment, and view charging sessions. The user must register first; after that, he can enjoy all the benefits, such as lower prices. In addition to the network of chargers in our country, thousands of chargers throughout Europe that are part of the partner network are also available to the application users.

Prepared by: Milica Radičević

Photographs: charge&GO

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NEW SOLAR MEGAWATT IN POŽAREVAC

Renewable energy sources are no longer only a factor in environmental protection but also in maintaining energy security. The crisis that marked the year behind us confirmed the necessity of switching to renewable sources. The sun's energy is affordable, and solar power plants play a significant role in Serbia's energy stability, reducing the pressure on Elektroprivreda. The number of built solar power plants is increasing every week, not only the large ones



retail chain has. The projects for all 14 power plants have already been completed.

For the construction of the first photovoltaic power plant, a building in Požarevac was chosen, which has a large number of small stores under its roof. The specificity of this project is the fact that the produced electricity will be distributed percentageally among the stores in proportion to their consumption. At the same time, the excess energy will be handed over to the grid. Two substations power this facility, and the power plant itself will be divided accordingly. The total power of the power plant will be 1 MWp.

Photovoltaic panels with a power of 410 Wp are used to construct the power plant. Exactly 2,414 Luxor Solar LX410M/182-108+(410W) monocrystalline solar panels will be installed, followed by AC distribution cabinets, a Fronius monitoring system and smart meters, which are essential additional equipment to make the solar power plant as efficient as possible. Also, 46 inverters will be installed with different power but from the same manufacturer, Fronius. These inverters are among the best in the world. Given that it is a complex facility, the inverters will be placed outdoors, and a special structure will be made to protect them from the direct influence of external weather conditions.

The roof surface on which the panels are placed is made of a synthetic membrane, which requires using a D-Dome construction manufactured by K2 Systems. It is planned that the panels will be oriented northeast-southwest at an angle of 10 degrees to make the most efficient use of solar radiation. If, for example, the roof surface was in the form of a trapezoidal sheet, the project would have foreseen a different type of construction that follows the roof pitch.

The construction of the solar power plant at the facility in Požarevac began at the beginning of December, and the planned completion date is at the end of January, after which it will be connected to the grid.

The expected production of the power plant on an annual level is 1140 MWh/year, the return on the investment of 925 thousand euros is expected in 6 and a half years, and we would especially emphasize the saving of CO₂, which amounts to 535,600 kg on an annual level.

The previously realized projects of the company MT-KOMEX, which will celebrate its 30th anniversary in January 2023, confirm the reliability of the company's business and the certainty that each project will be done in the best possible way. Among the power plants built by the company MT-KOMEX, so far, there are more than 60 MW of solar power plants in the portfolio, and the largest bifacial solar power plant on earth will soon be built.

Prepared by: Katarina Vuinac

of several megawatts but also those for their own needs, which smaller companies and households are increasingly installing.

Following positive trends, the company MT-KOMEX has recently started the construction of a solar power plant on the roof of one of the popular shopping centers in Serbia. It is important to point out that the value of such projects is recognized, and the construction of solar power plants is planned for each of the 14 buildings in different cities this

Photograph: Unsplash/Evgeniy Alyoshin



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SOLUTION FOR MAINTAINING AND EXTENDING THE LIFE OF INDUSTRIAL BATTERIES

The Lidac Battery Management Company was founded in 2014. Considering that its team of experts gathered to work together even earlier, in 2010, it is safe to say that the company has over a decade of experience working with industrial batteries. It positioned itself with the concept of battery management, adequate servicing, and sustainable development, and this is exactly what the company offers to its service users and customers. Nikola Seratlić, founder and CEO of Lidac Battery Management, says it is possible to maintain and even extend battery capacity. In his interview for Energy Portal (EP), Mr Seratlić explains why that is both possible and important.

EP *What is the battery management concept based on?*

Nikola Seratlić This is the concept of three pillars of sustainable development – or 3Es – where our users can expect visible benefits in energy, ecology, and economy. Our whole operational concept and providing significant benefits for our clients would not be possible without the latest

Our partners from Belgium have developed state-of-the-art process chargers that can reduce electricity consumption by up to 30 per cent for charging batteries used in electric forklifts

technologies, the know-how and the most advanced skills in maintaining industrial battery systems. The know-how and the complete technology, machines and equipment come from the United States of America, where we have acquired them, and today they are used all over Europe.

EP *Considering that batteries degrade during their lifetime, is it possible to maintain their energy efficiency (capacity)?*

Nikola Seratlić Of course, with the help of new technologies

and knowledge, it is possible to restore the battery's passivated capacity, i.e., its energy efficiency. Since the battery is a chemical source of electrical energy, it is subject to constant chemical processes and reactions that take place inside it. It is impossible to stop the processes and reactions that affect the degradation of the battery. Still, it is possible to recover the battery's passivated capacity, which occurred due to the aforementioned processes, but mostly due to inadequate maintenance and use. In this case, we are talking about lead-acid industrial batteries, which are still used most. Based on our experience, we can confidently say that it is possible to maintain the battery capacity until the end of the battery life or significantly extend its life in certain cases.

EP *You mentioned the 3E principle – the basic pillars of sustainable development. What do they mean for your user?*

Nikola Seratlić We are talking about the possible and visible benefits of our actions. The user of our services, such as long-term maintenance, servicing or revitalization of batteries, can expect benefits that can be valorized through direct financial savings, maintained and restored energy efficiency of the battery and a reduced amount of disposed



of hazardous waste. Every user of our services has observed and confirmed all the advantages mentioned above.

EP *Bearing in mind the energy crisis in full swing, is it possible, with your help or with the help of modern technologies, to reduce the electricity consumption for charging batteries?*

Nikola Seratlić It depends on which batteries we are talking about. It is possible with some types of batteries. The best example is lead-acid batteries for towing vehicles, more precisely, electric forklifts. There are quite a few in our country, considering that all logistics, transport and production companies use these forklifts. For those types of batteries, our partners from Belgium have developed state-of-the-art process chargers that can reduce electricity consumption by up to 30 per cent for charging batteries used in electric forklifts, which you will agree is a substantial saving. If we add to that our regular maintenance and keeping the energy efficiency of the battery at the maximum level, then those savings in electricity consumption can reach up to 50 per cent.



NIKOLA SERATLIĆ, founder and owner of Lidac battery management since 2014. He was born in 1992 in Sremska Mitrovica. He graduated from the Faculty of Applied Ecology "FUTURA", Metropolitan University.

EP *As energy and ecology are the focus of society today, how do Lidac's operations contribute to environmental benefits?*

Nikola Seratlić There are multiple ways we do that. Everything depends on the project, that is, on the battery. The concept on which our company's operations are based is the concept of sustainable waste management, or the 3Rs, for short. This ecological concept consists of 3 elements: Reduce, Reuse and Recycle. Each of the three mentioned elements indicates the life stage of a certain product, commodity or good. Given that we live in a hyper-consumeristic society, we need to reduce the need for new products

Our whole operational concept and providing significant benefits for our clients would not be possible without the latest technologies, the know-how and the most advanced skills in the maintenance of industrial battery systems



– that's what "Reduce" in the 3Rs stands for. In the next step, it is important to reuse the existing asset, in this case, the battery. This entails servicing and revitalization, which is what Lidac does – that's "Reuse" in the 3Rs. At the very end, if it is not possible to fulfil the first two postulates, we need to recycle if possible – that's how we come to Recycle in the 3Rs. Recycling always comes at the end because no emission-free recycling has been invented so far. In other words, no recycling process does not have harmful effects on the environment.

ENERGY TODAY AND HOW TO CREATE A BETTER TOMORROW

The current situation in our energy sector is certainly worrying and with a tendency to be subjected to additional uncertainties. While we are somehow used to being dependent on imported oil and gas, this very dependence when it comes to the import of electricity is much more difficult for us, which brings up a logical question – how did we become importers even in the power sector?

There are many reasons for this. We have not built new production capacities for more than three decades (practically since the 350MW Kostolac B2 and the 80MW Piroć hydro power plant were put into operation in the late 1980s). We have not prepared the mining capacities well enough, so now we are having difficulties with the quality and quantity of coal, and outdated thermal energy capacities can no longer perform as well as we were used to in the past. When you add to this the terrible management of the electricity industry in the last few years, it is not surprising that we have become importers.

When it comes to energy, timely action is essential. Thus, today the delayed construction of Kolubara B (planned originally in the 1980s, as a 2x350MW facility, with 35 per cent usability) is almost a failure because everything has changed since (technologies, attitude towards environmental protection, etc.). At the beginning of this century, a timely decision would be to build a new 700MW block in TENT B3, with usability exceeding 42 per cent. Such missed opportunities are never coming back.

Today, with the eagerly awaited Kostolac B3 unit, which usability stands at 35 per cent and should be included in the power grid as of next year, we are only correcting bad and late decisions in thermal energy. Namely, that block should have been built with better performance and in a much shorter time frame.

What should we do next?

The aim is not to give the impression of complete hopelessness. That would also send a bad message. There is the light at the end of the tunnel, as evidenced by the data showing that wind farms (of over 400MW capacity) have already been built, that the gas thermal power plant in Pančevo has become operational and that we expect a lot from the new large solar power plants (which can be included in the grid in the fastest possible way), as well as new wind farms and biogas power plants.

What's the situation like in Europe and the rest of the world?

The energy transition, also known as decarbonization (abandoning fossil fuels and turning to renewable energy sources), was in full swing in Europe in the last decade when it collided with the coronavirus pandemic and the war in Ukraine. As a result, we have reduced deliveries of



Russian gas and disruptions in supply chains. Perfidious geopolitical games have replaced engineering and economic logic in energy. Today absolutely everything is in turmoil – interrupted gas supplies, on the one hand, and full gas storages in Europe, on the other. Extremely high prices on the wholesale electricity and gas markets, searching for new gas supply routes from different suppliers and contemplating what and how to proceed.

The decision-makers in our region finally understood that energy must be viewed in the short, medium and long term, and not only from election to election or as a lever for mitigating social inequalities. Developed countries have long treated energy as a profitable and sustainable branch of the economy. We hope to take that approach.

Savings and restrictions

In the short term, it is anyone's guess whether we will have restrictions on the electricity supply in Serbia and the region this and in upcoming winters. The answer is that the probability of such a scenario is extremely low but not impossible. Namely, extreme cold that lasts for several weeks and a bad hydrological situation can make that scenario more likely. That is why, both in the short and medium term, the construction of production capacities must be accelerated, energy efficiency must be constantly improved, and energy savings must increase. Production has to be higher on both ends – through the construction of large power plants (centralized production method) and decentralized small production units closer to consumption (solar panels, biomass power plants, biogas). Namely, modern energy is based on the axiom that only by using hybrid solutions, which include energy storage, can the optimum energy mix be found. This second distributed type of energy production gives all citizens, companies and local governments the opportunity to contribute to the energy transition and help the democratization of the sector in terms of weakening the monopoly position of power companies.



Professor Nikola Rajaković, PhD
President of the Association of Energy Sector Specialists

The road to a fully decarbonized system

In the long term, the trajectory of the Serbian energy sector is clearly visible. Use the remaining lignite optimally and in parallel, make new large solar and wind production capacities operational while simultaneously solving the task of balancing variable production. This can be achieved through the construction of energy storage facilities such as reversible hydroelectric power plants and heat storage facilities, the construction of large battery plants, the implementation of hydrogen technologies, the development of consumption response technologies and others. Also, it is necessary to intensively push decentralized production, electrify the transport sector and the heating and cooling sector (heat pumps) and possibly think about the nuclear option. Concerning the construction of nuclear power plants, we need to highlight their exceptional exploitation advantage as base power plants, but also the high investments and complete dependence on the supplier of technology and fuel.

Therefore, to achieve energy independence, we need to solve the energy puzzle predominantly with domestic resources (sun, wind, water, biomass, and geothermal energy). If that option does not give results, then turn to nuclear technologies. At this moment, it seems that our energy independence, security of supply and sustainability of solutions can be achieved with our primary sources.





BUSINESS CONFERENCE

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THE GREEN TRANSITION

During French Week and under the auspices of the company MPC Properties, a business conference titled “The Green Transition” was held in late November. The conference was organized by the French-Serbian Chamber of Commerce (CCIFS) in cooperation with the Embassy of France in Serbia, where the event took place. It is the second conference in a series of events that are part of “The Quest for Net Zero” project launched in the context of harmonizing the Serbian economy with the EU’s Green Agenda

At the conference opening, the French Ambassador to Serbia, H.E. Pierre Cochard, greeted the conference participants and highlighted his country’s support for the green transition. The next speaker, the Serbian Minister of Mining and Energy, Dubravka Đedović, also emphasized the same topic, stating that the green transition was Ser-



bia's permanent direction. She added that all required measures were being implemented to make the transition to clean energy financially and socially sustainable and fair.

The president of the French-Serbian Chamber of Commerce, Dragan Stokić, mentioned the engagement of the Chamber's member companies while pointing out that the conference was an indication that the Chamber was fully committed to a sustainable approach. The CCIF's social and environmental commitment goes beyond its legal obligations, which contribute to the well-being of the local population, national development, and the competitiveness of the Serbian economy. At the opening, Maxence Liagre, CEO of

The French-Serbian Chamber of Commerce was founded in 2005 to bring closer the French-Serbian business community and improve bilateral cooperation between the two countries. It is a member of the Union of French Chambers of Commerce abroad, and today it gathers over 130 companies and enterprises in Serbia.



the MPC Properties Company, the conference's sponsor, also addressed those present.

The panellists discussed the most innovative examples and expert opinions on the green transition and environmental protection. At the first panel discussion – “Building for the Common Good: Sustainable Habitat and Infrastructure” – the panellists presented the best practices from the construction sector. French companies Veolia and Saint-Gobain, as did MPC Properties. During the second panel discussion – “Energy Mix for Energy Security and Sustainable Economic Development” – representatives of EDF, MT-KOMEX and Decathlon spoke about their energy efficiency projects and renewable energy sources. The third panel was dedicated to safer, sustainable transport systems for passengers and cargo. The French companies Belgrade Airport and Alstom shared their experiences in the transport segment. At the same time, the Transport Community gave an overview of the current situation in the sector in the Western Balkans and spoke about compliance with the EU's transport market. The last conference panel, “Solutions for Financing” was dedicated to models of financing projects from the EU and other funds with explanations given by the Delegation of the EU, the International Finance Corporation (IFC) and UNDP.

Prepared by: Milica Marković

THE IMPORTANCE AND POTENTIAL OF BIOMASS FOR THE DEVELOPMENT OF THE NATIONAL CIRCULAR ECONOMY

The goal of the circular economy is to restore natural resources, keep raw materials in use and extend the life of products by using an appropriate design that allows products at the end of their life not to become waste and thus contribute to pollution

After the fifth international conference, SEE ENERGY, organized by the National Biomass Association (SERBIO), we have talked to Jelena Bunčić, Manager and Project Coordinator, about the unused potential of biomass.

“As an economic activity, agriculture has a very pronounced negative impact on the environment precisely because of the circulation of pollutants through the entire production system – from the soil and water sources through the food chain and all the way to humans. In the production cycle, it is very important to establish a system and control the use of all inputs and adhere to the circular economy’s principles. Intensive agricultural production must be transformed into a circular model of production”, Jelena said.

According to official data, the potential of biogas and biomass, which is the most significant potential of renewable energy sources (RES) in Serbia, amounts to 67 per cent and is almost entirely unutilized. These data speak of a large untapped potential, especially regarding agricultural biomass.

Serbia ranks fifth in Europe in thermal energy production per megawatt hour, right behind Finland, Lithuania, Denmark, and Austria. Since supplying natural gas, as clean energy poses a challenge today, an increasing number



of people are considering RES, including using biomass for heating. To achieve the carbon neutrality goal by 2050, we need to reduce the impact of energy on the environment and, therefore, on people's health, as well as to rely as much as possible on sustainable green growth and sustainable green sources. Biomass is one of the RES sources with enormous potential, especially in Vojvodina. Still, it is insufficiently used and presented to the public, so its benefits and possibilities are completely unknown to many.

Biomass needs to be utilized more

Between 63 and 84 per cent of RES potential in our country come from biomass, but their share in heat energy production in 2019 was only 1.79 per cent. In line with the current situation in the world and our country, the plan is for this percentage to go up.

At the recently held fifth international conference, SEE ENERGY, organized by the National Biomass Association (SERBIO), conference participants noted that our country could produce more electricity from organic waste than coal today and at approximately the same price. "Conference visitors also learned about research that concluded that each hectare of land, and a total of 2.5 million hectares in

Biomass is one of the RES sources with enormous potential. In addition to energy, it is also subordinated to its application in construction



Jelena Bunčić,
Manager and Project Coordinator,
SERBIO

According to official data, the potential of biogas and biomass, which is the most significant potential of renewable energy sources (RES) in Serbia, amounts to 67 per cent and is almost entirely unutilized

Serbia, generates about four tonnes of harvest residue, which amounts to 10 million tonnes. These harvest residues carry a valuable potential", Jelena has told us.

Biomass is considered the most important renewable energy source, and in addition to energy, its innovative applications in construction have also been noted. However, due to insufficiently developed industrial production, underdeveloped policies relating to the promotion of the circular economy, and lack of public information about the necessity of the circular economy and sources of financing, the potential of eco-innovations, including those based on biomass, is far from being fully utilized.

"In addition to organizing conferences and workshops planned for next year, the National Biomass Association (SERBIO) will also be involved in the development of RES projects while working on actively presenting the potential to interested investors and seeking financial sources for these projects", Jelena concluded.

Prepared by: Milica Marković





LOVE AT FIRST SIGHT – ORGANELA

The example of Pavle Đorđević shows that childhood dreams can come true. As a boy, he dreamed of having his piece of land where he would grow fruits and vegetables, where he would be able to enjoy the peace and be with nature and in nature. Today, this native of Belgrade practices organic farming on his property in Valjevska Kamenica

Even as a student at the Faculty of Agriculture, Pavle Đorđević was making plans and developing ideas, but he could not have guessed that he would grow organic fruits and vegetables under his brand on four hectares of his land.

“I was lucky enough to come across an ad in 2017 that brought me to Valjevska Kamenica, a village located fifteen kilometers from Valjevo. As soon as I set foot on the then-abandoned farm, it was love at first sight,” explains Pavle.

The first step was to buy the property; the more difficult step came when he had to get the property in order. It took a lot of effort and work to reconstruct the farm and restore it to its former glory. Fortunately, none of that was difficult for Pavle because he finally had everything he dreamed of as a boy.



On the Organela estate, there are meadows and orchards, a small lake, and a micro botanical garden where we planted indigenous plants from our region

He was soon joined by agronomists Miloš and Pavle, architect Teodora, neighbor Ljilja, who helps with work on the farm, and Stefan, a graduate in economics. They make up the young team of Organela, which is united by a great love for nature.

“We deal with certified organic production of fruits and vegetables, and this year we organized and improved our processing. On the Organela estate are meadows and orchards, a small lake, and a micro botanical garden where we planted indigenous plants from our region. We pay great attention to the preservation of soil, water, and biodiversity because this is the only way we can preserve nature and improve it”, our interlocutor says honestly.

How does Organela function?

Anyone who wants products from this estate can order them by simply visiting the Organela website. The fruits are picked in the morning and delivered in the afternoon to home addresses in Belgrade and Valjevo. Pavle says they avoid sending to courier services, so they deliver the packages themselves. They are thinking about expanding delivery to other cities, but they lack the logistics for now. However, everyone who would like to enjoy the flavors of organic food can personally come to the farm and pick everything they want.

Pavle and his team also offer the option of service food growing. The process works like this: you get a plot of land on the property where you can grow whatever you want.

“Before the start of the season, we agree on which species you want us to grow and in what quantity. When the ripening season begins, we pick the fruits and deliver them to your home address. This service is currently only available to our regular customers. The user of the garden pays for this service monthly. Our goal is to offer the end customer the organic products he wants at a more favorable price”, says Pavle.



Photographs: Organela

PRIZES AND AWARDS

In the last year, Organela received several awards that helped to realize part of the plans. In Thessaloniki, at the regional competition “Green Ideas of the Balkans”, as the only competitors from Serbia, they received a valuable award.

“We invest the received funds in development. We have built a processing plant to have a rounded production. Our next steps are to build an anti-hail network for the orchards, as well as more modern irrigation systems. Then we have the additional afforestation of the property and the creation of natural wind protection belts”, adds our interlocutor.



As soon as I set foot on the then-abandoned farm, it was love at first sight

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“Bašta može svašta”

Last year, they founded the association “Bašta može svašta*” which manages part of the land on which fruits and vegetables are produced for children who are being treated for cancer and are staying in NURDOR’s parents’ houses.

This project grows and develops thanks to the volunteers who come to the “Bašta” to help with all the work. Pavle points out that their goal is for this project to grow so they can produce even more food to deliver to other associations. Organela regularly helps and maintains the “Bašta”, but they have a clearly defined goal for the whole project to become self-sustaining and live on its own, not on donations. He adds that this year over 300 volunteers helped in the realization of the project “Bašta može svašta”.

The fact that the environment warmly accepted them and helped them to find their way in the new environment gives the young team of Organela a special boost. Hard-working people from this area give them an incentive to persevere as an example of unity not only in this small community but also in the entire society.

Prepared by: Milica Radičević

* The garden can do anything



ECO WAVE 2023

ECO WAVE is a specialized event consisting of a promotional, educational, and networking platform. Exhibitors will raise social awareness of environmental conservation by sharing products, innovations, and services and brainstorming ideas on all platforms.

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ECO WAVE was created in 2018 (at that time, called VODA AQUA) as a result of a conscious objective observation that earth, water, air, and soil are common to all of us; therefore, care for them should be shared by all people. This can only be achieved by continuously raising society's awareness and educating companies, social organizations, adult individuals, students, and children, who are our future!

Sustainable development, concern for water, waste management, recycling, circular economy, zero waste society, smart cities, renewable energy, clean air, etc., are the segments covered by ECO WAVE. The event is designed in several modules:

- Water & Sewage
- Waste Management & Recycling
- Municipal Equipment
- Renewable Energy Sources and Energy Efficiency
- Environmental Technologies
- Air Quality
- Soil Decontamination
- E-mobility, Hydrogen
- Smart Cities
- Analysis and Laboratory Techniques, ICT

Concern for the environment knows no borders, so ECO WAVE aims to expand beyond borders and connect the region; Slovenia with Croatia, Serbia, Bosnia and Herzegovina, Austria, Italy, Germany, the Czech Republic, Slovakia, Hungary, Bulgaria...

ECO WAVE will take place in the period 10–12. 10. 2023. at the Ljubljana Exhibition and Convention Center, Ljubljana

We invite everyone active in the segments mentioned above to join us and participate in the upcoming B2B fair ECO WAVE 2023. Present your products, equipment, and innovative technologies; offer solutions based on high environmental protection and sustainability standards on the promotional platform and share your knowledge on the educational platform-the ECO WAVE Business Forum!

The Business Forum is planned in six tracks:

- Water Forum
- Eco Waste Forum
- Forum Clean Energy & Solar
- Smart Cities Forum
- Forum on Environment and Climate
- Industrial Forum

No matter what we do, all the by-products of our activities cause pollution of the planet's primary resources - water, air, and soil. With pollution increasing every day, we should not take them for granted. Increasing pollution should no longer be seen only as a matter of industrialization and economic growth, but a proactive approach to its prevention is necessary.

If you need any additional information, please contact the project manager

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www.icm.si!

10.-12.10.2023

Ljubljana Exhibition and Convention Center
Slovenia

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



TAKE ME AWAY...

About 2.1 billion metric tons of solid waste are produced on Earth annually, of which 16 per cent is recycled. Unfortunately, as much as 46 per cent of global waste ends up in illegal landfills, in water or is burned. The fact that the situation in Serbia is not any better should not be emphasized. In our country, the amount of produced waste has doubled in the last ten years, and less than 10 per cent is recycled.

Fortunately, there are more and more individuals who have a clear picture of the current situation in the recycling field and society as a whole. Thanks to their excellent ideas, they offer us a solution to certain problems. Jelena Vidaković, project manager of the humanitarian service “Take away”, is trying to solve the problems of waste disposal and environmental protection in a unique way, but also to find an effective way to reduce the level of poverty of citizens, giving the incentive to employ people who do not have qualifications to work.

Humanitarian service “Take away” is a part of the project “Business instead of garbage” implemented by the Republican Union of Collectors of Secondary Raw Materials

By taking over unnecessary things directly from the owner, we ensure the reuse of things

within the program “Support of the Swiss Government to the development of municipalities through the improvement of good governance and social inclusion – Swiss PRO”. The Government of Switzerland provides the main support in cooperation with the Government of Serbia. The program is implemented by United Nations Office for Project Services (UNOPS) in partnership with the Standing Conference of Towns and Municipalities (SCTM).

“We believed that every problem is solvable and that we can and must turn detected irregularities into an opportunity that should be used to improve the socioeconomic condition primarily of all marginalized groups of citizens”, explains Vidaković.

Analyzing the current situation, Vidaković concludes that a large amount of communal waste is generated in the household. That waste often ends up next to street containers and in illegal landfills. What citizens define as waste are often actually things or raw materials that can be further used or recycled.

“By primary selection according to the ‘take it from the doorstep of the waste generator’ system, we prevent a large amount of valuable resources from ending up in the

landfill. On the other hand, in the interaction with the citizens at the doorstep, the level of environmental awareness can be raised. Our experiences have shown that the concept of waste is relative and is closely related to the degree of the economic status of the individual and the degree of development of environmental awareness. Namely, in practice, it happens that, for example, a certain number of people want to get rid of a piece of furniture, textiles, or an outdated electrical device. While on the other hand, we have a poor group of people who would benefit from it to improve their poor living conditions. By taking over unnecessary things directly from the owner, we ensure the reuse of things, that is, we prevent them from becoming waste”, Vidaković points out.



Jelena Vidanović,
project manager of the humanitarian
service “Take away”

SOCIAL SUPPORT

All previous users of the “Take away” service have nothing but praise for the entire concept, so they are happy to recommend them. Jelena says that so far, they have helped around 100 families who, thanks to this, live in much better living conditions.

How does “Take away” work

All the interested citizens have to do is quickly and easily schedule and hire the vehicles and workers of the humanitarian service “Take away” for free via the application, website or user center. When making an appointment, you should choose whether it is about things for recycling, further use, donating food or simply hiring workers. Then you need to specify the exact address, date, and time for the team’s arrival and your own information.

“This principle of waste collection enables, first of all, a link between waste generators (citizens) and collectors. It ensures a greater degree of primary waste selection. That is, it prevents some useful household items from being destroyed and thrown into containers with other municipal waste. Instead, they are loaded into trucks at the client’s address and transported to a warehouse where all collected items are separated into three groups (things for recycling, things for use and repair on a smaller scale). In this way, we have satisfied the principles of the circular economy because we prevent the creation of waste by ensuring that things are reused, repaired, and ultimately recycled”, says Jelena.

For now, the service can be used by citizens of Niš and Pirot, and the goal is to be available to all citizens on the territory of Serbia.

Prepared by: Milica Radičević



SUSTAINABLE DEVELOPMENT

The concept of “Take away” should improve the current situation in the economy, ecology, and humanity.

“We believe this is a chance for sustainable development and a “new economy” that will create social capital, the focus of which can be found primarily on the unskilled labor force that now bears the epithet of a vulnerable group.

The center of our general goal is certainly ecology, but we believe that it cannot exist without an adequate economy and, above all, humanity among people”, adds Jelena Vidanović.



ECOMONDO AND KEY ENERGY

GREEN ECONOMY SYSTEM

As connoisseurs of sustainable development know Italy at the forefront for circularity and renewables. Italian Exhibition Group's Ecomondo and Key Energy shows signify the dedication to these subjects and at Rimini Expo Centre with +41 per cent in total attendance compared to 2021 (and +15 per cent over the record edition of 2019), also recording double foreign attendance (from 90 countries) thanks to the internationalisation policy launched by IEG in recent years which attracts new and numerous world visitors to Rimini in the name qualitative and numerical excellence.

Ecomondo and Key Energy have been witnessing their commitment to these important topics for years, while

recording an increasing number of visitors. The scale of the 25th edition of the Ecomondo fair and the 15th edition of the Key Energy fair, which were held from 8 to 11 November in Rimini, is evidenced by the fact that 1,400 companies presented their latest achievements on 130,000 square meters of exhibition space.

Ecomondo and Key Energy represent an authentic “system”, a community, that owes its uniqueness to the virtuous mix of business and exhibition, institutional relations of the highest level, from the European Commission through to the Ministry for the Environment and Energy Security, to the Foundation for Sustainable Development and supply chain consortia and a full and varied conference programme that provides visitors and exhibitors with a compass for finding the right direction among the ongoing changes and a constant stimulus for public decision-makers to continue along the path of sustainability.

With 86 per cent of Italian companies judging the level of attention to ecological transition as high or good, and with an estimated EUR 24 billion in benefits for consumers between now and 2030 in the wake of the development of renewables, in the near future, the Italian economy looks set to turn green.

Start-ups and exhibiting companies brought hundreds of stories of innovation to Rimini Expo Centre. While the global action aspect of the two shows saw 80 international

associations operating in the green economy with which the shows have signed cooperation agreements. Commitment to promoting “blue growth” in the Mediterranean area was seen to be constant with case histories of international cooperation projects for the protection of the marine ecosystem and the fight against climate change in the area and with the Africa Green Growth project, the energy autonomy of African countries as now part of the social sustainability agenda.

The state of the art of the market was demonstrated by the 1,400 exhibitor brands filling the 130,000 square metres at this 25th edition of Ecomondo and 15th of Key Energy, gathering together the best of Made in Italy and international technologies for the pillars of the green economy: the circular bio-economy, waste and waste-water management and valorisation, soil and sea regeneration, sustainable blue growth and hydrogeological risk, together with solutions and technologies for the solar energy sector, photovoltaics and storage systems, onshore and offshore wind

Start-ups and exhibiting companies brought hundreds of stories of innovation to Rimini Expo Centre

energy, energy efficiency in industry and buildings and a focus on sustainable cities and electric mobility.

Supply chains that attracted 600 foreign buyers to Rimini Expo Centre thanks to the synergy with the ITA–Italian Trade Agency and the Ministry of Foreign Affairs which generated 2,537 business matchings on the digital platform.

While exhibitor profiles on the GreenTechInsights B2B platform received over 270,000 viewings by professional operators. 160 institutional events were organised by Ecomondo and Key Energy’s two scientific committees, chaired respectively by Fabio Fava from Bologna University and Gianni Silvestrini, Director of Kyoto Club Italia.

“At the beginning, Ecomondo took up a mere 3,000 square metres of exhibition space,” said Environment and Energy Security Minister, Gilberto Pichetto Fratin, in his speech today at the Rimini show. “After 25 years, this number is 40 times bigger and has reached 130,000. Numbers that give an idea of the opportunities to be seized both for the future and for the technologies that allow us to look at a different kind of energy production.”

Ecomondo will be back in Rimini from 7th to 10th November 2023, preceded, from 22nd to 24th March 2023, by the first edition of K.EY The Renewable Energy Expo (the KEY ENERGY spin-off that will become autonomous with double the space).

Prepared by: Milica Marković





“POWER OF NATURE” AT ENERGY AND ECOLOGY FAIRS

This year’s 17th International Energy Fair was held from October 4 to 6, 2022 in extremely complicated, turbulent and unpredictable energy circumstances caused by geostrategic and geopolitical turmoil on a global scale. In almost all sectors – production and distribution of gas, oil, coal, electricity from renewable and nuclear sources – global disruptions have made energy stability the biggest possible challenge, reflecting in the most naked form on the regional level as well.

At the same time, in the same place and under the same slogan “Power of Nature”, the 18th International Fair of Environmental Protection and Natural Resources – EcoFair

About 70 companies and institutions from ten countries participated in the exhibition and accompanying program, and they covered a wide range of energy sectors and activities

was held, and this year it was joined by the International Communal Technologies Fair – CTF, with its first edition.

Once again, the program backbone of the Belgrade Energy Fair, as a regional integrative factor in connecting all segments of the energy sector in the country and the region, was represented by production and exploitation, beneficiation, distribution, transport, storage or direct use of existing and potential natural resources and energy sources, and also by scientific and research work, smart technologies, energy saving, energy efficiency, educational support and all other areas that were part of the energy foundation and the driver of the entire economic and public life.

About 70 companies and institutions from ten countries participated in the exhibition and accompanying program, and they covered a wide range of energy sectors and activities. Thus, for example, the state-owned EPS, the largest energy company in Serbia, came forward with the promotion of economical ecological production with an increase in energy efficiency and the share of renewable energy sources, with the imperative of preserving Serbia’s

energy stability.; The projects presented by various sectors of the Electric Power Industry of Serbia included, among others: “Go Green Road”; Development of RHE “Bistrica”; Construction of flue gas desulfurization plant TENT A3-A6; Revitalization of RHE Bajina Bašta; Pilot-project of establishing plantations of fast-growing woody willows for energy needs; To achieve the development of software solutions for the improvement of electricity and coal production, electricity trade and business software solutions; The impact and importance of new mining equipment (new systems) for the total production of coal and tailings in RB Kolubara; Remote control of the pre-drainage system; Capital overhaul and achievement of designed parameters at TE-KO B1; to achieve the development and importance of telecommunications and infrastructure in JP EPS; Environmental, energy and economic benefits of selling ash from TPP Kostolac B; Customer – producer relationship, etc.

“Serbian manufacturers of smart meters” (Sitel-Mikroelektronika, EWG and Meter&Control) presented their achievements in the field of smart meters for households and industry and in the field of software for remote control of

electricity consumption; The company Centar S, motivating innovators in this field, presented the EcoFlow portable power plant with “the fastest charging in the world”; The company Zink Hydro-Energy introduced itself as a manufacturer of complete equipment for small and medium-sized hydropower plants; The company MT-Komex offered its program of delivery and installation of solar panels and power plants; Cornerstone has prepared an innovative Smart POS package for presentation at this year’s Energy Fair, which includes the latest and most popular POS Android device on the world market, the Pax A920 Pro, an all-in-one solution; Elams system has recommended equipment for the prevention of all risks associated with working under voltage and near voltage; NAHTEC promoted its already famous concept of energy production from biomass, etc.

Finally, all of the above, and especially the symbiotic relationship between energy and ecology, was joined by the premier, 1st International Communal Technology Fair – CTF, a unique business-educational event of its kind in our area, aiming to connect key stakeholders in the communal activities, manufacturers, customers, engineering staff...

With thematic units and the interest of participants and visitors, this year’s energy and ecology fairs thus shared first-class global dilemmas, with a reflection on sustainable energy and environmental stability on a local and regional level.

Prepared by: Milica Marković



ENERGY EFFICIENCY AND RENEWABLES ARE INSTRUMENTAL FOR COUNTRIES IN THE GREATER HORN OF AFRICA TO PROVIDE ENERGY FOR ALL

Energy infrastructure in the greater Horn of Africa has struggled to keep pace with a fast-growing population, creating a formidable hurdle for the region's buoyant economies that can best be overcome through stronger deployment of energy efficiency and renewable technologies, according to the IEA report.

Countries in the region have already demonstrated they can find innovative solutions to extend electricity access to underserved populations and have huge underexploited potential for wind and solar power. But achieving these objectives requires supportive policies, better regulatory frameworks, regional cooperation and international financial assistance, according to the IEA's new report on Clean Energy Transitions in the greater Horn of Africa, which is being presented at a conference in Kampala, Uganda.

Energy consumption in the greater Horn of Africa – defined in the report as Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda – has grown by 3 per cent per year over the last decade, but half the population still lacks access to electricity and only one in six people cooks with modern fuels. The eight countries represent nearly a quarter of sub-Saharan Africa's GDP, yet their total energy consumption is less than that of Belgium and the Netherlands combined – but with 10 times the population.

"The greater Horn of Africa is home to some of the world's fastest growing economies, but its potential is at risk if energy infrastructure can't keep pace," said Mary Burce Warlick, the IEA Deputy Executive Director. "The IEA stands ready to provide expertise and policy advice for African countries to develop clean, reliable and affordable energy systems that will serve all their people. These efforts will hinge on regional cooperation and international assistance."

Ms Warlick is providing the keynote remarks at the Kampala conference along with Ugandan Minister of Energy and Mineral Development Ruth Nankabirwa and Netherlands Vice Minister for International Cooperation Kitty Van Der Heijden. All eight regional countries have sent representatives from their energy ministries, and other regional stakeholders are attending as well.

Despite being one of the regions globally that is most vulnerable to the impacts of climate change, the greater Horn of Africa has one of the lowest levels of emissions per capita. In 2020, the region emitted about the same amount of carbon dioxide as New York City.

Bioenergy – often in the form of gathered firewood, charcoal and agricultural waste – currently meets around 80 per cent of the greater Horn of Africa's energy demand. For electricity, the region has one of the world's most sustainable systems, with more than 85 per cent of generation coming from renewables – mostly in the form of large hydropower projects in Ethiopia, Sudan and Kenya. But the region has massive, underutilised potential for solar, wind and geothermal power.



GREENPEACE OUR TRANSPORT SYSTEM IS FUELLING THE MULTIPLE CRISES WE'RE FACING

With extreme heat, floods and fires, the highest inflation in decades, unprecedented energy price-hikes, a looming energy shortfall and a war on European soil, the world feels like it's at a crossroads. We certainly need all hands on deck to confront the multiple crises we face together. In the midst of these chaotic times, there is one area in our society where all the threads come together: our transport system. It is one of the roots of our oil dependence, causing many of the problems we face.

CLIMATE AND NATURE CRISES

With record heat waves, massive droughts, floods and raging fires, this summer the damaging consequences and costs of the climate crisis have been more visible than ever before.

Our oil-guzzling transport system is a major driver of the climate crisis – accounting for almost 30 per cent of the EU's total greenhouse gas emissions and 23 per cent of global emissions – with high costs for our health and well-being from air pollution and noise to our environment.

The direct exploitation of our natural resources, including the extraction of oil, is one of the biggest threats to our natural world. Transport is the main reason for oil extraction and production worldwide, with around 60 per cent of oil used for transport globally, and almost 70 per cent in the EU. The production of agro-fuels for cars, or the construction of new infrastructure for polluting transport like airports and highways further threatens wildlife habitats and forests.

Despite these grim impacts on our climate and nature, governments give transport and fossil fuel industries financial and policy privileges to help them make huge profits at the expense of people. Meanwhile, these companies are betting mainly on false solutions like carbon offsetting or ramping up the production of agro-fuels which are largely fuelling deforestation, biodiversity loss, environmental destruction and human rights abuses.

Source: Greenpeace



WHAT ROLE CAN YOUNG PEOPLE PLAY IN TACKLING THE CLIMATE CRISIS?

The impacts of the climate crisis are already widespread: from increased floods, droughts and wildfires to more devastating storms and temperature extremes.

Scientists estimate the world is experiencing a global temperature increase of 1.1°C over pre-industrial levels and if CO₂ emissions are not reduced in line with the Paris Agreement, this could rise to 3°C by 2100, with devastating consequences for humanity.

Given that the effects the climate crisis will intensify over time, young people stand to pay in full with their futures. But their unprecedented mobilization shows the power they possess to hold decision-makers accountable, say experts.

In the second episode of the United Nations Environment Programme's (UNEP's) Uncommon Ground web

series, host Juan Pablo Garcia is joined by two panellists, Shanik Aspe, a media personality from Mexico and Mitzi Jonelle Tan, an environmental activist from the Philippines. They talk about the difficulties the world faces in transitioning to renewable energy and the steps young people can take to get their elected representatives to take the climate crisis seriously.

They also examine how people can reduce their carbon footprint while looking at the structural issues related to how we grow our food, travel through our cities and the fashion we consume.

Both Aspe and Tan agree that education is vital, which is why UNEP was part of the Transforming Education Summit held in New York during the 77th session of the UN General Assembly (UNGA) from 16 to 19 September 2022. The event focused on the cross-sectoral nature of education and its power to contribute to confronting environmental challenges.

Source: UNEP



HOW IS AIR QUALITY MEASURED?

Air pollutants come from a variety of sources, including human-caused emissions – like fossil fuel use in vehicles and cooking – and natural sources, such as dust storms and smoke from wildfires and volcanoes.

Air quality monitors are outfitted with sensors designed to detect specific pollutants. Some use lasers to scan particulate matter density in a cubic metre of air, while others rely on satellite imaging to measure energy reflected or emitted by the Earth.

Pollutants tied to human and environmental health impacts include PM2.5, PM10, ground-level ozone, nitrogen dioxide and sulfur dioxide. The greater the density of pollutants in the air, the higher the Air Quality Index (AQI), a scale that runs from zero to 500. An AQI of 50 or below is considered safe, while readings above 100 are deemed unhealthy. According to UNEP partner IQAir, only 38 of 117 countries and regions averaged healthy AQI readings in 2021.

HOW IS AIR QUALITY CALCULATED?

Air quality databanks process readings from governmental, crowd-sourced and satellite-derived air quality monitors to produce an aggregated AQI reading. These databases may weigh data differently based on reliability and the type of pollution measured.

UNEP, in collaboration with IQAir, developed the first real-time air pollution exposure calculator in 2021, which combines global readings from validated air quality monitors in 6,475 locations in 117 countries, territories, and regions. The database prioritizes PM2.5 readings and applies artificial intelligence to calculate nearly every country's population exposure to air pollution on an hourly basis.

Source: UNEP



AGRICULTURE COMMISSIONER LENDS SUPPORT FOR NEW EU-WIDE FERTILISERS STRATEGY

EU Agriculture Commissioner Janusz Wojciechowski has offered tentative support to creating an EU-wide fertilisers strategy to help protect farmers against potential future shortages.

A potential initiative to boost domestic production of fertilisers to reduce reliance on third countries – particularly Russia- was discussed in August during a meeting between Spanish agriculture minister Luis Planas and his French counterpart Marc Fesneau.

At the time, the French stressed the need to set up “an EU strategy for fertilisers like the energy strategy,” concerning the REPower EU plan to limit reliance on Russian fossil fuels. At the same time, Planas highlighted the importance of regaining strategic autonomy in the production of fertilisers.

The topic was again in the spotlight during the informal meeting of EU-27 agriculture ministers in Prague on Friday (16 September), where calls to address the issue holistically were reiterated.

“We need to seriously consider this strategy,” the Commissioner told reporters ahead of the informal meeting, calling the prospect “very interesting”.

He added the situation is “now so complex,” and there is a problem with ensuring an adequate supply of fertilisers and substitution mineral fertilisers while reducing livestock numbers and changing animal production.

A representative of the EU farmers' association COPA-COGECA backed the move in a press conference on 12 September to help secure a steady supply of fertilisers across the EU.

According to data from the industry association Fertilizers Europe, Russia and Belarus provide 60 per cent of the EU's fertiliser. Sanctions introduced in March on imports of potash from Belarus and interruptions to trade with Russia have put significant pressure on supplies.

Source: EURACTIV.com

WHAT YOU NEED TO KNOW ABOUT COMBATTING FOOD LOSS AND WASTE

As the world searches for ways to counter the climate crisis, experts are turning to food systems for solutions. Research from the IPCC shows that food loss and waste is responsible for a staggering eight-10 per cent of global greenhouse emissions.

SO, WHERE DOES THIS FOOD LOSS COME FROM?

“Food loss and waste occurs at every stage of the supply chain but is concentrated on the farm and in the home,” says Clementine O’Connor, a food systems expert with the United Nations Environment Programme (UNEP). “The middle of the supply chain generates comparatively small volumes of food waste but has resounding influence over how food is grown, purchased and eaten.”

REFORMING FOOD SYSTEMS

The UNEP Food Waste Index Report 2021 revealed that around 931 million tonnes of food waste was generated in 2019, 61 per cent of which came from households, 26 per cent from food service and 13 per cent from retail.

EXPERTS SAY THERE ARE SOME SIMPLE WAYS TO STEM THOSE LOSSES.

Consumers can help reduce the amount of food lost in transport by buying locally grown produce, including at places like farmers’ markets. Supporting local farms also fosters food security and can help domestic agriculturalists adapt to climate change, O’Connor says.

Growing your own food can help you enjoy produce at peak ripeness, but systemic changes, at country and city-level, are needed to dramatically reduce food waste, O’Connor added.

URBAN SOLUTIONS

About 70 per cent of food consumption occurs at the urban level. Experts say city governments can help create circular food systems by raising awareness about food loss, promoting urban agriculture, providing free food waste recycling services, and banning organic waste from landfills.



Source: UNEP

ENERGY CRISIS FORCES MORE AMBITION IN EU GREEN BUILDINGS LAW

Soaring energy prices are mounting pressure on Europe to renovate its ageing, inefficient buildings as governments scramble to protect citizens from rising utility bills.

Europe’s buildings are responsible for 40 per cent of its energy consumption and many are in desperate need of better insulation in order to decrease the EU’s reliance on imported fossil fuels.

Buildings are a key sector when it comes to addressing high energy prices and security of supply concerns, said Paula Rey Garcia from the European Commission’s energy department, who spoke at a Brussels event in September.

In light of the energy crisis and the war in Ukraine, there needs to be an “ambitious” revision of the EU’s energy performance of buildings directive (EPBD), added Martin Pejřimovský, energy attaché at the EU representation of the Czech Republic, which currently holds the bloc’s six-month rotating presidency.

As the EU presidency holder, Czechia aims to find a common position among the EU’s 27 member states before handing over the reins to Sweden on 1 January to finalise negotiations on the bill with the European Parliament.

While not a short-term solution to the energy crisis, updating the buildings law must be part of the EU’s answer, said Pejřimovský, who believes the current version is no longer fit for purpose.

“It’s not enough for the challenges that we will be facing tomorrow and in the decades after, especially considering everything that’s going on with the

war in Ukraine and the complete revision of a lot of truths and beliefs that were connected to the way we are running our economy,” the Czech attaché told attendees at the event.

Source: EURACTIV.com





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