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Kristin Melsom

Norwegian Ambassador to Serbia

Strategies for Planet Preservation

How Solar Companies Respond to Global Challenges

Responsible business

RECYCLING AS THE KEY TO SUSTAINABLE DEVELOPMENT

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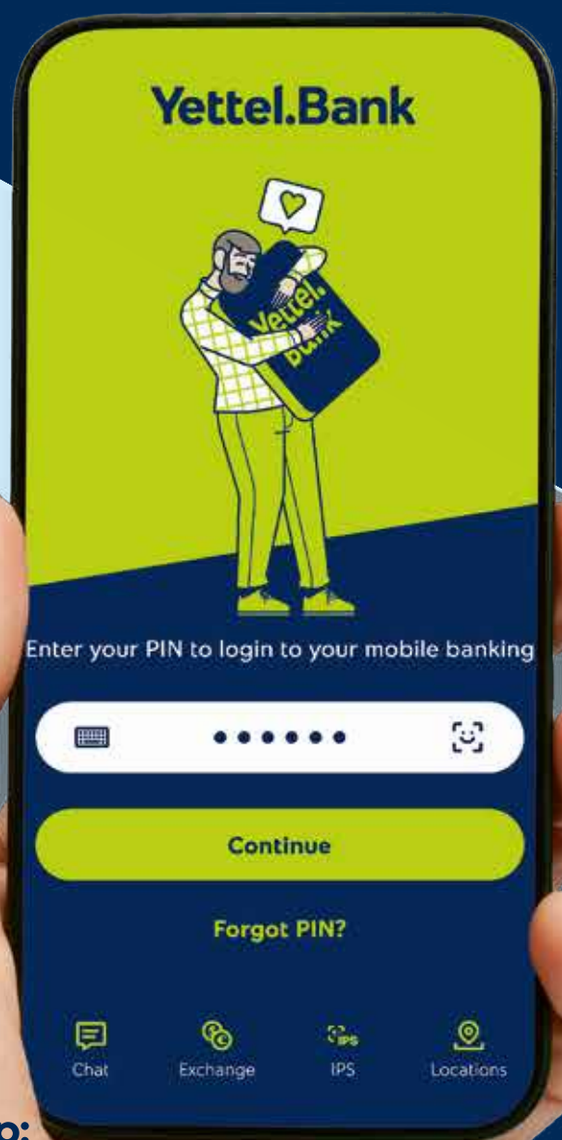

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WORD OF THE EDITOR

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Dear readers,

In a rapidly changing world, sustainable business practices are no longer just a trend but necessary for long-term competitiveness and growth. Climate change requires a serious approach to sustainability, setting high standards for all sectors, especially for industries that directly affect the emission of carbon dioxide and other pollutants. Two key factors shape modern business strategies in this context: Carbon Cross-Border Adjustment Mechanism (CBAM) and ESG (Environmental, Social, and Governance) criteria.

In this issue, we consider how integrating sustainable business practices can bring competitive advantages, as well as the key obstacles to implementing these standards.

Thanks to its vast natural reserves, such as oil, gas, and forests, Norway is one of the wealthiest countries in the world. It is also a leader in producing clean energy and using renewable sources, which we discussed with Christine Melsom, Norway's Ambassador to Serbia.

Nihat Biševac, the mayor of Novi Pazar, shared details about the results already achieved, the challenges this city faces, and ambitious plans for the future.

In our well-known section, Opinion, Maja Petrovic, a PhD in environmental protection, explains carbon management and its importance for a sustainable business.

We followed what the company MT-KOMEX realized in 2024. In the text about them, you will read all about the solar power plants they have built and their plans for the upcoming year.

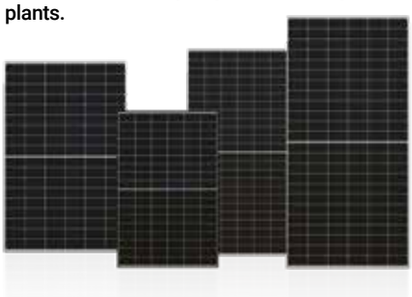
On the global stage, the United Nations Conference on Climate Change (COP29) brought new agreements and initiatives to accelerate global efforts to combat climate change. You can find details from the conference in our text, which offers insight into concrete strategies and goals that countries and companies have set for the future.

As the holidays approach, many of us are thinking about gifts and what we can do for the planet in 2025. By introducing sustainable practices into everyday life, such as driving electric vehicles or using environmentally friendly technologies, we are taking a step towards a better and more sustainable future. Given everything that lies ahead in the coming year, we invite you to reflect on how you can contribute to reducing your ecological footprint and making the world a better place for future generations.

Nevena Đukić
editor-in-chief

Photograph: courtesy of Nevena Đukić

IN THIS ISSUE...



A topic absent from public discourse for decades, it has now garnered widespread attention across society, from scientists, economists, and journalists to the general public. Amendments to the Energy Act, which would include lifting the current moratorium prohibiting the construction of nuclear facilities, would form the foundation for further decisions.

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Photographs: (first row) Pixabay/Gerd Altmann, CEEFOR; (second row) Almir Dervišević, SolarSK; (third row) Eco Fund, Energy Portal

STRATEGIES FOR PLANET PRESERVATION

Norway, a country known for its stunning natural beauty, rich cultural heritage, and very high standard of living, stands out with its high level of education, strong commitment to environmental protection, and stable economy. Interestingly, despite its relatively small population, Norway is one of the wealthiest societies in the world, thanks to its vast natural resource reserves, such as oil, gas, and forests. The country is a leader in clean energy production as well as in the implementation of renewable sources. However, Norway is not without its challenges in certain sectors. We discussed these topics with Kristin Melsom, the Norwegian Ambassador to Serbia.

Norway has robust environmental policies that adhere to EU legislation as we are part of the same economic area

Q: Norway ranks high on the Environmental Performance Index (EPI). What strategies contribute to this success, and what are your plans for the upcoming period?

A: Norway ranks 7th among 180 countries in EPI, and we are very proud of this result. Still, we are not equally successful in all sectors. For example, we score high in managing acid rain, air quality, sanitation, and drinking water. Norway also significantly increased the percentage of protected areas, preventing wetland loss and ocean plastic pollution. However, it is fair to say we need to catch up in some areas, such as sustainable pesticide use and a circular economy.

Various factors contribute to these results. Norway has robust environmental policies that adhere to EU legislation as we are part of the same economic area. Nature has been generous to Norway as we generate most of our electricity from hydropower, making us one of Europe's largest renewable energy producers. Norway is also expanding investment in wind and solar energy to reduce its carbon footprint further. Sustainable transportation is also one of the factors, and we are the leaders in using electric vehicles. We invest in environmental education and public

Photograph: Pixabay/VBlock

campaigns to raise awareness among our citizens about sustainability, foster a culture of environmental responsibility, and actively participate in international environmental agreements.

Norway will focus on several essential goals in the upcoming period. The plan is to achieve net-zero greenhouse gas emissions by 2050. Norway also aims to diversify its renewable energy portfolio by developing large-scale offshore wind farms. We are committed to increasing the protected land area from 17 percent to 30 percent by 2030 and improving the sustainable use of materials and recycling.

Regarding our international work and commitments, the most important goals are to limit the global increase in temperature, enable vulnerable countries to adapt, reduce the consequences of natural disasters, prevent deforestation, and promote economic development and food security.

Q: What percentage of Norway's energy consumption currently comes from renewable sources, and what are the plans for further growth in this sector?
A: When it comes to energy consumption, electricity makes up almost half (47 percent) of energy consumption, and in Norway, electricity is almost solely produced by hydro energy (90 percent) and wind energy (9 percent). Another 7 percent of consumption is biofuels and waste fuels. Therefore, we can say that more than half of consumption is entirely green (54 percent). The other 46 percent of consumption is oil products (37 percent), and natural gas and coal at around 3-4 percent each. They fall under so-called hard-to-abate sectors such as industry and transport, which require energy to run factories, fuel automobiles, and heat or cool homes. While we can be satisfied with what we have achieved in producing electricity, there is still work ahead in transforming industry and transport. Oil is primarily used in transport where, despite recent exponential growth in EV sales, most cars, trucks, ships, and aircraft are still powered by oil-based fuels burned in internal combustion engines. Other major sources of CO_2 emissions from oil include heating homes and businesses and making plastics and chemicals. When it comes to energy used for industry today in Norway, I can say that oil is not used that much (only 10 percent), but we do use it for industrial non-energy uses, notably for the production of asphalt, engine lubricants, and raw materials for making plastics.

KRISTIN MELSOM was appointed as the Ambassador of Norway to Serbia, North Macedonia, and Montenegro in August 2023. Previously served as the Director and Head of the Section for Southeast Europe in the Norwegian Ministry of Foreign Affairs. Before that role, Ms. Melsom was the Minister Counsellor and Deputy Head of Mission at the Norwegian Embassy in Ankara for four years, as well as the Counsellor and Head of the Political Section at the Norwegian Delegation to NATO for four years. Kristin Melsom joined the Norwegian Ministry of Foreign Affairs in 1996. Prior to her career in the Ministry of Foreign Affairs, Ms. Melsom served as an Air Defence officer in the Norwegian Air Force and held the rank of captain in 1996.

Photographs: Pixabay/Enrique; (Melsom) courtesy of Kristin Melsom

There are many plans for the future. There is continuous effort in developing both offshore and land-based wind power capacities. Additionally, an increasing number of companies are entering the hydrogen sector. The government has singled out hydrogen as a key strategy in the green shift, making available funding for research & development. Ammonia may become the clean fuel of choice by ship owners for deep-sea shipping. We are actively developing energy storage solutions. A few gigawatt battery factories are in the pipeline; one actually opened this August in Arendal, with goals of sourcing cobalt, nickel, and other minerals from the region or changing the composition of batteries to reduce the need to import rare earth minerals.

Q: How does Norway address the challenges of the energy transition, particularly in balancing energy security with sustainability goals?

A: We are "navigating" between the two multifaceted approaches. Our hydropower dominance provides a stable source of clean energy. We are investing a lot in developing new energy sources such as offshore wind, hydrogen production, and battery technologies. In parallel, digitalization is essential for energy transition because it enables business models that improve energy efficiency. Lastly, we are implementing carbon capture and storage systems to decarbonize our economy further. All this said we should not try to "greenwash" the reality. It is a fact that despite our commitment to sustainability, we remain a major producer and exporter of oil and gas. This sector is crucial for energy security in Norway and European markets. It is also one of the largest employment sectors in Norway, with 200,000 people working there. So, we can say that Norway aims to maintain stable production while gradually transitioning to greener alternatives.

Q: What are Norway's most successful innovations in waste management, and can you provide insights on the Nordic Green Project in Serbia?

A: Norway has many companies with innovative solutions in waste management, but I would like to highlight the two companies present in Serbia. The first one is Cambi, which delivers innovative solutions enabling utilities to manage sewage sludge from wastewater treatment and waste processing plants. The Cambi thermal hydrolysis process is optimal for treating sludge from wastewater plants of larger cities. It yields up to 50 percent more biogas than conventional anaerobic digestion and transforms sludge into biosolids that can be used as fertilizer. Another one is the TOMRA Collection. TOMRA is a leading innovator in the circular economy and a company that creates advanced recycling machines for Clean Loop Recycling, seeking to change society's habits and preserve valuable resources through continuous use and recycling. With over 85,000 machines installed in over 60 markets, TOMRA recycling machines collect over 46 billion used bottles and cans annually. TOMRA recycling machines, digital solutions, and services facilitate recycling for industry, system owners, retailers, and consumers to create a world without waste.

Nordic embassies in Belgrade cooperate in presenting their green

solutions and model of regional cooperation. This involves topics such as circular economy and smart cities. The cooperation is supported by the Nordic Council of Ministers, and our partners in Serbia are the Nordic Business Alliance, the Ministry of Environment, NALED, the Standing Conference of Towns and Municipalities (SKGO), Chambers of Commerce, local governments, Innovation and Technology Parks, civil society organizations, etc. This year, we are initiating a new series of events in smart cities. I look forward to exploring how Norway, jointly with other Nordic embassies, can assist with developing a local smart city roadmap for Serbian towns and municipalities, using the experience of a Norwegian smart cluster – Nordic Edge pioneered smart city planning, starting from the local level in Norway and evolving to national and then to Nordic model. The Nordic Smart City Roadmap today provides a framework for smart city work in cities and municipalities both in the

Photographs: (top) Pixabay/Enrique; (middle) Pixabay

Norway has emerged as a global leader in electromobility, driven by a strategic combination of progressive government policies, financial incentives, and broad public endorsement of electric vehicles

Nordics and internationally – describing the positive societal effects of smart city initiatives and identifying the principles to adhere to and the barriers we will work together to overcome.

Q: How has Norway positioned itself as a leader in electromobility, and what steps are being taken to develop infrastructure for charging electric vehicles?

A: Norway has emerged as a global leader in electromobility, driven by a strategic combination of progressive government policies, financial incentives, and broad public endorsement of electric vehicles. Central to this leadership is a comprehensive package of incentives specifically designed to accelerate the transition to zero-emission vehicles. These measures, introduced gradually since the early 1990s by successive governments and coalitions, include exemptions from VAT on purchases up to 500,000 NOK and exemptions from registration fees and road tolls. Such policies have significantly lowered the cost of electric vehicles relative to their fossil-fuel counterparts.

A robust charging infrastructure has further bolstered Norway's position. The rapid development of a comprehensive, nationwide network of charging stations has ensured EV owners have access to discounted, and in some cases free, convenient, and reliable charging—even in remote regions. This extensive infrastructure has addressed one of the primary obstacles to widespread EV adoption.

Norway's environmental consciousness and unwavering political commitment to sustainability have been pivotal in fostering long-term support for electromobility initiatives. The country's population has largely embraced policies to reduce carbon emissions and protect the environment, making the transition to electric vehicles a natural progression.

In addition, Norway's urban policies have created further incentives for electric vehicle ownership. In numerous cities, EV drivers benefit from privileges such as free parking, access to bus lanes, and reduced ferry costs. These daily conveniences encourage a growing number of individuals to opt for electric vehicles.

Approximately 80 percent of newly registered passenger cars in Norway are fully electric. While an exact timeline for achieving 100 percent electric vehicle registrations remains elusive, current trends suggest that most new registrations will be electric by 2030 or shortly after. The full realization of this transition will depend on the gradual phasing out of older fossil-fuel vehicles, continued enhancements to the charging infrastructure, and the increasing availability of electric cars in the second-hand market.

Q: What measures does Norway implement to promote environmental protection within industrial and energy projects?

A: Like in other sectors, Norway adheres to EU standards, legislation, and best international practices and tries to take the lead in making its industrial and energy projects even more environmentally friendly. We do it through a combination of strict regulations, incentives for clean technologies, public engagement, and international cooperation.

We have mandatory comprehensive environmental impact assessments (EIAs) for industrial and energy projects. These assessments evaluate potential environmental effects and require mitigation strategies before project approval. Industrial and energy projects are required to comply with biodiversity conservation guidelines. This includes protecting sensitive ecosystems and species during project planning and execution.

Norway also emphasizes public engagement in the planning and decision-making for industrial and energy projects. Once the projects are approved, continuous environmental monitoring is required to ensure compliance with environmental standards. This includes regular reporting to the Norwegian Environment Agency on emissions, waste management, and adherence to mitigation measures. The Agency also has enforcement responsibility for all industrial sectors regarding environmental aspects.

As I mentioned, Norway is committed to gradually transitioning

Norway also emphasizes public engagement in the planning and decision-making for industrial and energy projects

from fossil fuels to renewable energy sources, investing in hydropower, wind, and solar energy. We have also had a Carbon Tax since 1991, one of the highest in the world, pushing industries to adopt cleaner technologies and reduce their carbon emissions. The government supports developing and deploying clean technologies through funding and research initiatives. This includes carbon capture and storage (CCS) projects, which aim to reduce emissions from industrial processes.

Norway, in cooperation with the Cleaner Production Center of the University in Belgrade, has supported Serbian companies and institutions in implementing the Industrial Emissions Directive of the EU, specifically for controlling emissions of Volatile Organic Compounds.

Q: How does Norway plan to balance the development of oil and gas projects with sustainability objectives in the global shift towards cleaner energy sources?

A: Norway recognizes the necessity of transitioning from fossil fuels to a more sustainable future. In the context of the global shift toward cleaner energy sources, it is committed to balancing the development of oil and gas projects with its sustainability objectives. Applying several key strategies can make this plan a reality.

Firstly, the revenue generated from oil exports is strategically reinvested into sustainable development initiatives. These initiatives focus on facilitating the transition to electric vehicles and promoting renewable energy sources. Moreover, as a net exporter of clean electricity—primarily sourced from hydropower—Norway underscores its commitment to fostering a greener future while leveraging its existing resources.

Secondly, Norway has established a robust regulatory framework to ensure that oil and gas projects adhere to rigorous environmental standards. This framework encompasses comprehensive impact assessments, stringent emissions regulations, and policies designed to incentivize sustainable practices within the industry. Notably, Norway is a leader in carbon capture and storage technology. Government support is directed toward developing CCS projects that capture CO_2 emissions from oil and gas operations and store them underground. This innovative approach effectively mitigates the climate impact associated with fossil fuel production.

Lastly, the Norwegian government prioritizes public and stakeholder engagement, collaborating closely with industry stakeholders, environmental organizations, and the general public. This inclusive strategy guarantees that developing oil and gas projects considers environmental concerns and sustainability objectives, fostering transparency and accountability in our efforts.

Furthermore, Norway actively values international collaboration, engaging with other countries and international organizations to share knowledge and technology related to sustainable energy practices. By participating in global initiatives, Norway promotes the transition to cleaner energy sources and fosters a collective approach to sustainability.

Through strategic reinvestment, robust regulatory frameworks, stakeholder engagement, and international collaboration, Norway effectively balances oil and gas development with its sustainability objectives, ensuring a responsible transition towards a sustainable future.

Q: What initiatives does Norway undertake to educate young people about climate change and sustainable development, and which strategies could be applied in Serbia?

A: Understanding the population's culture regarding protecting the environment, addressing the climate crisis, and promoting sustainable development is very important. This culture starts with children and youth, so Norway implements several approaches to achieving it.

Photograph: Pixabay/Michelle Raponi

Environmental education is integrated into the national curriculum at all educational levels. Subjects such as science, geography, and social studies include climate change and sustainability content.

However, the school curriculum is not enough – practice is also needed. Norwegian schools are encouraged to implement environmentally friendly practices for waste reduction, energy efficiency, and biodiversity. Students actively engage in these initiatives, fostering a sense of responsibility toward the environment.

Besides practice, youth need to experience how the environment and climate-related decisions are made. For that reason, Norway hosts and supports Youth Climate Conferences where young people can discuss climate issues, develop action plans, and engage with policymakers. Something similar was organized in Serbia in a project on clean air implemented by UNICEF.

Unlike Serbia, institutions and citizens in Norway consider NGOs partners and allies. Environmental organizations help facilitate educational programs and campaigns (workshops, seminars, and field trips for students) focused on climate change awareness and environmental stewardship.

In addition, the government and organizations provide online resources and courses related to climate change and sustainable development, making information accessible to a broader audience.

Similar initiatives have already been implemented in Serbia, but there is much room for improvement. The general population here is less aware of the importance of environmental protection and sustainable development. Curricular and extracurricular activities should be more integrated into the education system, and schools should be more open to new content and cooperation models. Focusing on local environmental challenges, such as air pollution, deforestation, and waste management, is essential to make the content more relatable and motivate students to take action in their communities.

Q: How does Norway approach biodiversity conservation, and what are the most significant environmental challenges you currently face?

A: Norway has designated over 17 percent of its land as protected areas, critical for preserving habitats and safeguarding vulnerable species. The government aims to increase this percentage, contributing to the global goal of protecting at least 30 percent of terrestrial and marine areas by 2030.

Norway promotes Sustainable Management of Resources, including forestry, fisheries, and agriculture practices. The government collaborates with local communities and stakeholders to develop sustainable practices that benefit the environment and the economy.

Norway emphasizes raising awareness about biodiversity through education and public campaigns. Programs in schools and community initiatives aim to foster a sense of responsibility towards nature and encourage participation in conservation efforts.

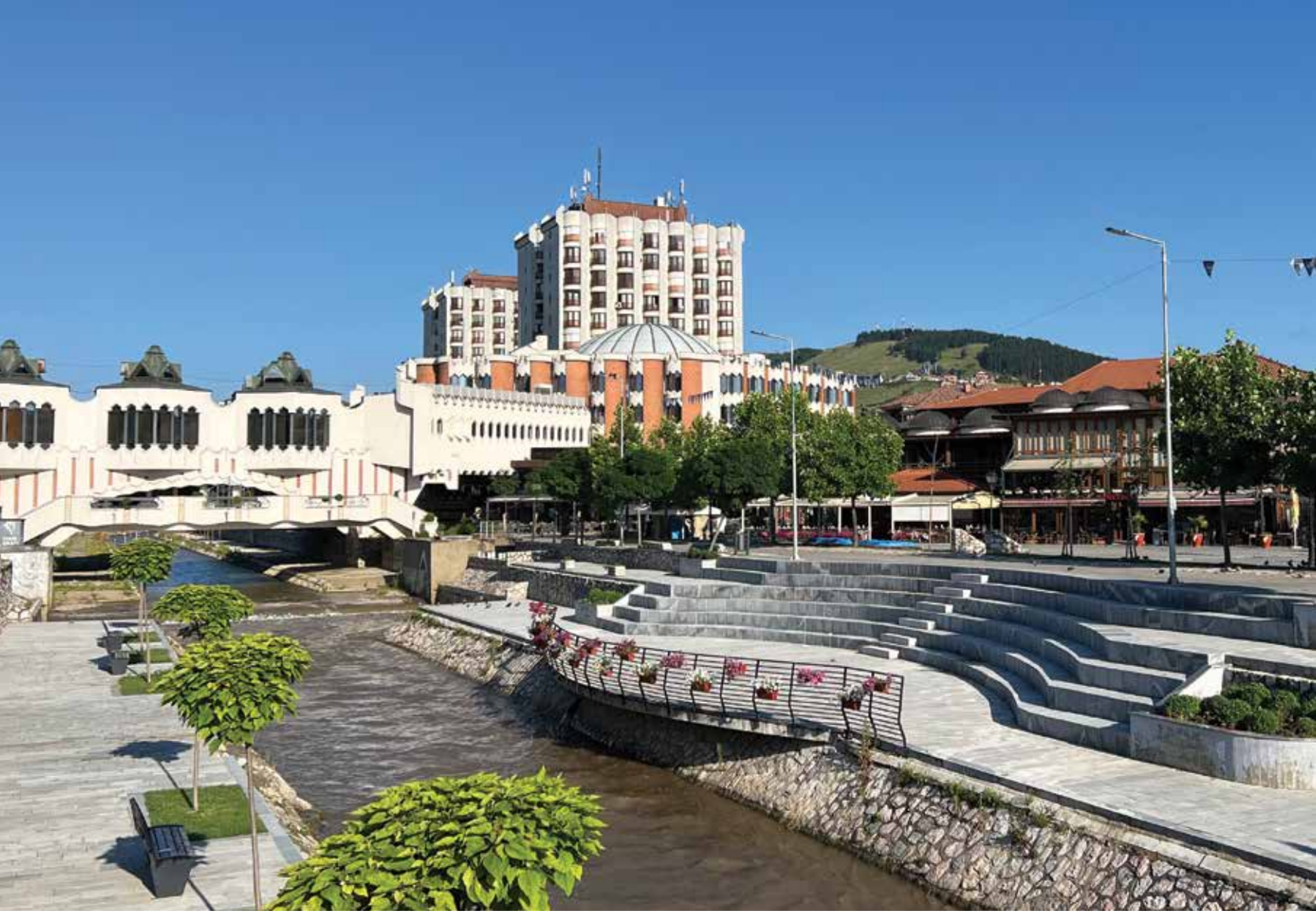
Norway actively participates in international agreements and initiatives focused on biodiversity conservation, such as the Convention on Biological Diversity (CBD). We also support conservation efforts in other nations. For example, Norway supported the first public aquarium (MonteAqua) with the Marine Biodiversity Conservation Center in Kotor in Montenegro.

The government invests in researching, monitoring biodiversity, and assessing the health of ecosystems. This data informs policy decisions and helps identify areas that require conservation efforts.

However, we also face significant challenges for biodiversity and ecosystems. Climate change is leading to shifts in species ranges and increased species vulnerability. Pollution is not so pronounced here but is also present, especially plastic pollution and chemical contamination. Like in other western countries, habitat loss and fragmentation negatively impact many species and disrupt ecological processes. Managing invasive species is a growing concern for conservation efforts. Overfishing, mining, logging, and agriculture also create problems in some areas.

Therefore, we are all facing similar challenges that require ongoing attention and adaptive management strategies to safeguard biodiversity for future generations.

Interview by Milica Radičević



THE PATH TO SUSTAINABILITY AND ENVIRONMENTAL RESPONSIBILITY

Novi Pazar, one of the most picturesque cities in the Sandžak region, has become known not only for its rich cultural and historical heritage but also for its pioneering efforts in environmental preservation. With its dynamic energy and youthful spirit, Novi Pazar is increasingly gaining attention as a leader in implementing green initiatives that have a long-term impact on the quality of life for its residents.

What sets the city apart is the diversity of its environmental projects. From launching composting programs and addressing environmental violations to investing in renewable energy sources, Novi Pazar demonstrates how a local community can actively combat climate change and protect the environment.

Nihat Biševac, the Mayor of Novi Pazar, shared details of the city's achievements, challenges, and ambitious plans for the future. Learn how Novi Pazar has successfully integrated traditional values with modern ecological solutions to position itself as a model for other cities in Serbia and beyond.

Q: The city's commitment to ecology is evident from the substantial funds allocated to environmental protection in the past year. Tell us more about that.

A: In the past year and a half, Novi Pazar has invested 160 million dinars

Photograph: Wikipedia/Planeti

The city has also launched a program to subsidize building renovations, including improving insulation (façades), replacing old windows, and transitioning from solid-fuel boilers to more environmentally friendly options

NIHAT BIŠEVAC was born on 9 January 1964 in Novi Pazar. He graduated from the Faculty of Economics in Priština. He has held several high-responsibility positions throughout his career, demonstrating significant expertise and managerial skills, particularly in organizing work and leading various projects. He was named Novi Pazar's Athlete of the Year in 1989. He is currently serving his third term as Mayor of Novi Pazar.

in environmental protection projects. Our focus has been on initiatives that enhance the quality of life for citizens, increase energy efficiency, reduce emissions of harmful gases, and promote the transition to sustainable energy sources. These projects include modernizing boilers in public institutions, implementing district heating using biomass, and launching subsidy programs for citizens.

Much of the investment has gone towards upgrading boilers in educational and public institutions such as the Pendik Sports Hall, the Gymnasium, the Technical School, the Textile School, and Vuk Karadžić Elementary School. Previously, these institutions used coal, which caused significant air pollution, particularly during the peak heating season in winter. By switching to biomass pellets—a renewable resource—the city has reduced emissions of harmful substances like carbon dioxide and sulfur dioxide while improving energy efficiency. These projects align with the city's long-term strategy to phase out fossil fuels in the public sector, setting a standard for similar-sized towns in Serbia.

Introducing a biomass district heating system for the Cultural Centre, the municipal building, and the Youth Centre is another milestone in reducing fossil fuel consumption in Novi Pazar. Installing heating pipelines and transitioning from coal to biomass decreases pollution in the city center and significantly boosts energy efficiency. Biomass is considered a renewable resource with a much smaller carbon footprint than coal, resulting in a dual benefit—contributing to global pollution reduction goals while creating a sustainable local energy resource.

The city has also launched a program to subsidize building renovations, including improving insulation (façades), replacing old windows, and transitioning from solid-fuel boilers to more environmentally friendly options. These subsidies help households reduce energy consumption during winter, reducing reliance on fossil fuels. This initiative, carried out in collaboration with the Ministry of Environmental Protection and the Ministry of Mining and Energy, aims to ease household heating maintenance while directly reducing energy consumption and heating costs.

Q: Novi Pazar has recently inaugurated a biomass heating plant to replace an outdated oil-powered facility. The city has also co-financed installing solar power plants in residential homes. What is the share of renewable energy

Photograph: courtesy of Nihat Bišević

sources in the city's energy mix, and what are your plans for next year?

A: In 2022, Novi Pazar launched a biomass and gas heating plant with a capacity of 20.3 MW, significantly reducing harmful emissions. In its first heating season, sulfur dioxide emissions decreased by 47 percent, PM10 particles by 19 percent, PM2.5 particles by 20 percent, and nitrogen dioxide by 9 percent. These figures demonstrate the impact of transitioning to renewable energy sources, an essential step in safeguarding citizens' health and protecting the environment. We also co-financed solar panel installations on family homes, further encouraging the adoption of renewable energy at the household level. In the coming years, we plan to replace all remaining district heating boilers with biomass and gas systems, achieving complete independence from fossil fuels in our heating network.

Q: Could you tell us about the air quality in Novi Pazar and why it is essential to draft an air quality plan?

A: Air quality during winter is compromised due to Novi Pazar's geographical location, heavy traffic, and the widespread use of solid-fuel boilers in homes. Developing an air quality plan has become a top priority to address this complex issue. A public consultation on the plan is forthcoming, after which it will be adopted by the city assembly. This strategic framework will guide the implementation of measures to improve air quality. Planned initiatives include optimizing traffic flow, gradually transitioning boilers to renewable energy sources, and expanding pollution monitoring systems. The plan will also enable Novi Pazar to apply for funding from international donors and relevant ministries to secure additional resources for pollution reduction programs.

Q: You recently rehabilitated two unregulated landfills. However, waste is still improperly thrown away. How do you intend to solve this problem?

A: In recent months, Novi Pazar has intensified efforts to clean up illegal dumpsites. While we have successfully removed two large illegal

Photographs: (top) Wikipedia/Jovanvb; (middle) Wikipedia/Emir Mehović

dumps, improper waste disposal remains an issue, especially in rural areas. To combat this, the city plans to increase the number of municipal police officers and install video surveillance at critical locations to deter future dumping. In collaboration with the Ministry of Environmental Protection, the city has also acquired a new vehicle for regular waste collection in remote areas. The city has also applied for funding to purchase another vehicle, which will further improve waste collection efficiency.

Photograph: Novi Pazar City

Novi Pazar recently processed 20 environmental violations.

Environmental violations, such as illegal waste disposal, prohibited chemicals, and waste burning, pose serious threats to public health and the environment. We have introduced stricter controls and harsher penalties for offenders, and municipal police play a crucial role in upholding ecological standards.

The Municipal Police actively patrol areas of the city where these activities occur frequently and where we receive the highest number of reports. We have increased their presence in critical zones, particularly near illegal dumpsites and locations where improper waste disposal occurs. Additionally, we have deployed extra monitoring teams in rural areas, where illegal dumping is more common, and remediation challenges are more significant due to distance and reduced accessibility.

One of the primary objectives of these activities is preventative action. Our citizens must understand that, with stricter measures and oversight, irresponsible behavior toward the environment will no longer be tolerated. When residents see the Municipal Police regularly monitoring critical areas and enforcing penalties for violations, they begin to grasp the seriousness of these measures and the impact environmental offenses have on the community. This approach helps raise awareness and encourages responsible behavior among all citizens.

Enforcing legal measures against environmental offenses has significantly changed the behavior of our fellow residents. People are now more aware and willing to report irresponsible activities. Citizens' reporting of these incidents demonstrates their understanding of preserving natural resources and the value of a clean environment. Every report shows that the sense of collective responsibility for the environment is growing.

The Municipal Police play a key role in this process because they directly engage with citizens and operate on the ground. Beyond issuing penalties, they also educate: our officers are trained to explain to citizens the importance of proper waste disposal, the consequences of irresponsible behavior, and how we can all contribute to a cleaner Novi Pazar. These discussions are held not only with adults but also with children in schools and through various public initiatives, as raising awareness among the youngest generation is equally important for achieving long-term results.

When citizens are informed and aware of the risks, they are more likely to take an active role in preserving nature. With the continued efforts of the Municipal Police and the support of all citizens, I am confident that Novi Pazar will achieve significant results in protecting its environment and ensuring a clean and safe living space for all of us.

Q: Residents of Novi Pazar were recently provided with compost bins for organic waste disposal. What has been the level of interest among citizens, and are there plans for similar initiatives to reduce household waste?

A: The distribution of free compost bins to the residents of Novi Pazar has received very positive feedback and sparked great interest. In addition to allowing households to produce their own organic fertilizer, the compost bins significantly reduce the amount of waste sent to the Golo Brdo landfill. This project is an important step towards developing a sustainable waste management system and fostering environmental awareness among citizens. The city plans to double the number of compost bins distributed next year, enabling even more households to reduce their waste and contribute to the recycling of organic material.

Interview by Milena Maglovski

ESG STANDARDS AS THE FOUNDATION OF A SUSTAINABLE FUTURE

In the world of business and investment, the acronym ESG – representing Environmental, Social, and Governance standards – has become a key determinant for assessing a company's sustainability. ESG standards are not just a trend; they have evolved into an essential tool for addressing the challenges of modern society, such as climate change, social justice, and ethical business practices. But what exactly do they entail, and why have these values become indispensable?

What Are ESG Standards?

Environmental (E): This aspect encompasses a company's environmental impact, including carbon emissions, waste management, resource use, and investment in renewable energy. Companies with strong environmental practices contribute to global goals for reducing emissions and preserving natural resources.

Social (S): The social component focuses on a company's relationships with employees, communities, and suppliers. It includes fair labor practices, diversity and inclusion, human rights protection, and contributions to local communities.

Governance (G): Governance emphasizes ethical company management, transparency, anti-corruption efforts, regulatory compliance, and rule adherence. High-quality corporate governance ensures shareholder trust and long-term growth.

ESG standards have evolved from recommendations to rules that investors and companies increasingly

Photograph: Unsplash/Robert Collins

integrate into their business strategies. Organizations adhering to these principles mitigate risks, attract sustainable investments, strengthen their reputations, and earn consumer trust.

Countries Leading in ESG Standard Implementation

Many countries worldwide have established standards defining ESG practices, but a few stand out for their advanced policies, transparency, and success.

Norway exemplifies how ESG standards can be integrated on a national level. The Norwegian Government Pension Fund, also known as the Oil Fund, valued at over 1.4 trillion dollars, is one of the world's largest investors and strictly adheres to ESG principles. The fund is renowned for excluding companies that fail to meet environmental and social standards, such as those violating human rights or polluting the environment. Additionally, Norway continues to invest heavily in renewable energy, such as wind farms and hydropower, with Oslo emerging as a global leader in sustainable urban development.

The Netherlands is noteworthy for its efforts to apply ESG standards across all economic sectors. Dutch companies, such as Unilever, have become global examples of how sustainability can be embedded into business strategy. The Dutch government also supports regulations promoting a green transition and workers' rights. Furthermore, the Netherlands was among the first countries to mandate companies to report carbon emissions and adopt measures to reduce them.

New Zealand stands out in the southern hemisphere with a unique approach to ESG standards, focusing on biodiversity conservation and natural resource protection. It was the first country in the world to legally recognize the Whanganui River as a legal entity, granting it the same rights as people. Additionally, New Zealand is a leader in promoting gender equality and indigenous rights, making it a prime example of strong social standards.

ESG standards are not just a trend; they have evolved into an essential tool for addressing the challenges of modern society, such as climate change, social justice, and ethical business practices

Japan has made significant strides in improving corporate governance through ESG standards in recent years. The Tokyo Stock Exchange launched an initiative requiring companies to increase transparency, including disclosing sustainability-related information. The Japanese government has also introduced The Green Growth Strategy to encourage the transition to a low-carbon economy.

ESG standards are not just tools for assessing company sustainability but are essential for shaping a sustainable future. As the world faces challenges like climate change and growing social inequalities, implementing ESG standards becomes a critical component of any economic and political strategy. For companies and governments aiming to lead the way in transformation, ESG is not just a responsibility but also an opportunity for innovation, development, and long-term success.

Prepared by Milena Maglovski

Photographs: (bottom) Unsplash/Ant Rozetsky; (middle) Unsplash/louis-moncouyoux

Solar power plant B2 NOVA SUN - Nova Crnja

SOLAR ENERGY AS A DRIVER OF CHANGE

Solar energy has become a key element in the global energy transition in the last few decades. MT-KOMEX, with over three decades of experience, has significantly contributed to this trend. Through continuous investment in innovation and growth, MT-KOMEX has achieved significant results in solar systems, installing megawatts of energy that make a real difference in the region. This year, the company expanded its operations beyond Serbia, leaving a significant mark on the market for renewable energy sources. The beginning of 2025 brings new challenges and goals, and the company continues to develop as a leader in the solar energy sector, with a clear focus on sustainability and environmental benefits.

Looking at the whole picture, MT-KOMEX has built more than 250 solar power plants – 90 MW on the ground and over 70 MW on rooftops and installed more than 350,000 solar panels over the years. The company's team comprises over 30 engineers and 80 installers. The number of projects and the expert team are growing with the growing demand for renewable energy sources and electricity.

A massive success in 2024 was the construction and commissioning of two solar power plants realized by the company – B2 Nova Sun in Nova Crnja and B2 Sunspot in Kikinda.

The solar power plant B2 Nova Sun was officially launched in August. It is a power plant with a capacity of 9.9 MW, located in the industrial zone of Nova Crnja, covering an area of approximately 13 hectares. Made up of 16,820 bifacial panels, the power plant will enable the production of about 14,000 MWh of electricity annually. In addition to enhancing energy security, this solar power plant will reduce

Photograph: MT-KOMEX

Strategic Partnership

MT-KOMEX has become a silver partner of Huawei. Participating in the prestigious Huawei Digital Power Partner Summit strengthened the company's position in the digital energy industry and advanced sustainable solutions.

carbon dioxide emissions by more than 15,817 tons per year, which is equivalent to removing over 3,000 average cars from the road for the entire year.

The second major success was commissioning the solar power plant B2 Sunspot in Kikinda, with a capacity of 7 MW. It is located on a site that was previously used for waste disposal but is now entirely repurposed for productive land use. With an estimated annual production of 11,000 MWh, combined with the energy generated in Nova Crnja, this project will provide the Banat region with 25,000 MWh of clean, green energy from the sun.

A massive success in 2024 was the construction and commissioning of two solar power plants

Both power plants were among the winners of the first auctions organized by the Ministry of Mining and Energy of the Republic of Serbia. Contracts for purchasing electricity and balancing responsibility were signed with the Joint Stock Company Elektroprivreda Srbije.

This was the first time EPS signed agreements with a solar power plant for electricity purchase and balancing responsibility, with a trial and permanent operation period of 15 years.

After successfully completing the first auction, MT-KOMEX is preparing to participate in the second round of auctions in Serbia to allocate market premiums to renewable energy sources, striving to repeat the previous results.

Business Operations in the Region

When it comes to the region, a mention of MT-KOMEX BH in Bosnia and Herzegovina is inevitable. Although established in 2023, the company achieved significant collaborations and business success in its first operational year. A pioneering project in BiH was the construction of the largest solar power plant in the system of PE Elektroprivreda BiH d.d. Sarajevo. Additionally, the solar power plants Markovac Jungići and Markovac Jungići 1 were built. The total power of these solar power plants is 280 kWp, while, according to estimates, their annual production will amount to 360 MWh.

In 2024, MT-KOMEX expanded its operations to the European Union, specifically to Croatia, where it successfully overcame slightly different procedural requirements. A rooftop solar power plant was commissioned for a local investor.

However, these achievements were not achieved without their challenges, such as the evolution of legal frameworks that have followed the development of the sector since 2009, when private users and industrial facilities were first allowed to be both energy producers and consumers. Regulations have changed over time, and each new version of the legal provisions, although not perfect, has allowed for progress and facilitated investment in renewable energy sources. Early significant projects lacked substantial financial support, making them unprofitable and uncertain for the banks. MT-KOMEX has developed alongside the evolution of the solar energy sector, which is why today it concludes the year with all these impressive results.

Prepared by Milica Vučković

CBAM – CHALLENGES AND OPPORTUNITIES FOR EXPORTERS AND TRANSITION TO CLEAN ENERGY

Greenhouse gas emissions represent a serious issue that the European Union began addressing more than 20 years ago by adopting the Emissions Trading System (EU ETS). This system, based on the principle 'pay as you pollute', limits the total amount of emissions and allows companies to trade allowances. Companies that achieve savings in emissions can sell their surplus allowances to those needing additional permits, thereby incentivizing investments in clean technologies. At the same time, emissions remain within the overall cap, merely redistributing how much each company is allowed to emit.

However, the system has its shortcomings. Companies have often relocated production to countries outside the EU without stringent emission reduction measures, thus bypassing restrictions and reintroducing emissions into the Union through imported products, jeopardizing global climate goals.

In 2022, an agreement was reached on the Carbon Border Adjustment Mechanism (CBAM) regulation. This regulation aims to prevent so-called carbon leakage from countries

Photograph: Pixabay/umarseehar

outside the European Union and address shortcomings in the EU ETS.

CBAM is an integral part of the Fit for 55 package, which aims to reduce the European Union's net greenhouse gas emissions by at least 55 percent by 2030.

As of January 1, 2026, the full implementation of CBAM is planned, marking the end of the transition phase

Principles on Which CBAM Is Based

The European Union imports many products from non-member countries, which is particularly significant for companies outside the EU as it enables them to expand their market reach and maintain competitiveness. However, to achieve global climate goals, the EU has introduced measures designed to motivate companies from these countries to transition to clean energy and technologies.

CBAM is a tool that sets a price on carbon dioxide emissions generated while producing carbon-intensive goods. For instance, if a company outside the EU wants to export its products to the Union, it must pay for the carbon dioxide emissions embedded in its products. These embedded emissions refer to all emissions produced during the entire manufacturing process, including transportation. The cleaner the production process, the lower the carbon adjustment cost.

Transition Phase

CBAM did not immediately go into full effect to enable industries to transition to cleaner technologies and energy more smoothly and considerately. A transitional period provides industries ample time to adapt to the new rules and obligations and develop the necessary infrastructure to implement the Mechanism effectively.

The transitional phase began on October 1, 2023, with the first reporting period for importers ending on January 31, 2024. During this period, CBAM applies to import specific products identified as having the highest risk of carbon leakage, including cement, iron, steel, aluminum, fertilizers, electricity, and hydrogen. It is important to note that during the transition period, importers are not required to purchase and surrender CBAM certificates. Their sole obligation is to report greenhouse gas emissions, including direct and

CBAM is a tool that sets a price on carbon dioxide emissions generated while producing carbon-intensive goods

indirect emissions embedded in the products they import.

Until the end of 2024, companies can choose one of three reporting methods for their products' emissions: the EU Methodology (new EU rules), the Equivalent Method (three options), or Default Values (until July 2024). However, from 2025 onward, companies reporting on product emissions will be required to use the EU Methodology, which mandates precise emissions calculations according to EU rules.

If a product contains components for which obtaining accurate emissions data is challenging (complex products), estimating emissions (default values) is allowed but only for up to 20 percent of the product's total emissions. The remaining emissions must be accurately calculated. Another new feature starting in 2025 is that plant operators outside the EU will be able to share emissions data via the CBAM portal instead of sending it individually to each importer as they have done previously.

Lastly, starting in 2025, companies wishing to import products covered by CBAM regulations will be able to obtain the status of an Authorized CBAM Declarant by submitting an application through the CBAM registry. Their application will be reviewed by the competent authority in the EU country where they are registered.

Full Implementation

The full implementation of CBAM is planned for January 1, 2026, marking the end of the transition phase. This will introduce additional requirements. For example, obtaining the status of an Authorized CBAM Declarant will become mandatory by then. Additionally, the range of products covered by CBAM will expand to include chemicals and polymers. The goal is to include all EU ETS products by 2030.

CBAM reports will also be required to be submitted quarterly and must include several mandatory pieces of information. First, they must specify the total quantity of each type of imported goods, categorized by the facilities where they were produced in the country of origin. Second, they must provide details of the actual embedded emissions – both direct and indirect – for each type of product. Direct emissions, for example, are those emitted directly from the facility during production, while indirect

emissions result from the production of components or raw materials used in the final product.

Third, the report must include the CO2 price paid in the country of origin. This allows importers to request a reduction in their CBAM obligations by the amount already paid in that country. This applies to countries that have implemented their own carbon pricing systems. Providing evidence of the paid price is required to avoid double taxation

Photographs: (top) Pixabay/jannonivergall; (middle) Pixabay/TheDigitalArtist

and align the total obligation with EU standards.

Finally, importers will be required to purchase and surrender CBAM certificates corresponding to the emissions embedded in the products they import.

National Bodies and Software Solutions

Although CBAM is still relatively unknown to the broader public, professional institutions and industries are working intensively on its development and implementation. Many countries are establishing national bodies responsible for implementing this mechanism. For example, Germany, the largest industrial economy in the European Union, is dedicated to CBAM implementation. The German Emissions Trading Authority (Deutsche Emissionshandelsstelle – DEHSt) manages the emissions trading system and is responsible for implementing policies to reduce carbon dioxide emissions and other climate change factors. DEHSt oversees the national implementation of the EU ETS system and, in the context of CBAM, plays a key role in ensuring that German industries, particularly in the steel, cement, and aluminum sectors, comply with carbon dioxide emissions regulations. Therefore, DEHSt has been designated as the responsible authority for CBAM implementation at the national level.

To prevent so-called carbon leakage from countries outside the European Union and address shortcomings in the EU ETS, an agreement on the Carbon Border Adjustment Mechanism (CBAM) regulation was reached in 2022

Various tools and solutions have been developed to facilitate the implementation of CBAM, which has complex regulations and remains unfamiliar to many companies and industries that are encountering it for the first time. Among these are software platforms that enable the automated collection and validation of data required for CBAM reports. These tools not only assist in accurately calculating emissions but also streamline the entire process step by step. Additionally, they address key questions, such as how to correctly prepare a report or register in the system, significantly simplifying this challenging procedure for all stakeholders involved in CBAM implementation.

CBAM represents a significant step toward achieving climate goals by reducing greenhouse gas emissions and accelerating the transition to clean energy. Its implementation is not only crucial for environmental benefits but also for economic development. Companies aligned with this mechanism will become more competitive in the market, opening up new opportunities and improving their sustainability and innovation.

Prepared by Katarina Vuinac

Photograph: Pixabay/SD-Pictures

RECYCLING AS THE KEY TO SUSTAINABLE DEVELOPMENT

Sekopak, a leading operator of the packaging waste management system in Serbia, has contributed to environmental preservation for over 18 years through innovation, responsible business practices, and efficient recycling. The company, which has set high industry standards through its work, not only helps reduce the ecological footprint but also actively educates citizens and businesses about the importance of sustainability and recycling. Violeta Belanović, General Manager of Sekopak, reveals how the company implements a responsible approach to business, her perspective on developing the waste management sector in Serbia, and the key innovations shaping the future of recycling and environmental protection.

Q: What does a responsible business approach mean to you, and how do you implement it at Sekopak?

A: For Sekopak, a responsible business approach means actively contributing to environmental preservation through innovation, transparency, and collaboration with key partners. As an operator of the packaging waste management system, our mission is to enable an efficient and sustainable system. We support all our collaborators in this system. Over the past 18 years, we have recycled more than one million tons of packaging waste, directly contributing to reducing carbon dioxide emissions and developing the circular economy in Serbia.

Throughout these years, we have consistently highlighted the benefits of recycling and sustainable business practices. Those who analyze corporate social responsibility have confirmed that these are not just words. EcoVadis awarded Sekopak a gold certificate for corporate social responsibility, placing us among the top five percent of companies across all categories that meet the highest criteria for social responsibility. Additionally, Sekopak is one of the first companies to adopt new ISO standards in the field of circular economy.

Q: How has the packaging waste management and recycling sector in Serbia developed over the past few years?

A: In recent years, we have witnessed significant progress in the packaging waste management sector. Last year, new targets for reducing municipal packaging waste were adopted,

Photographs: Sekopak

placing additional demands on operators while presenting challenges that drive us to improve the system.

Currently, 67 percent of packaging waste in Serbia is recycled, which is a good result, especially considering that the system was established only 14 years ago. Achieving these goals requires the synergy of all stakeholders to ensure the system's sustainability. We notice strong interest from all sides, and it will soon become more apparent how the system will function following the adoption of the Regulation on the Determination of the Packaging Waste Reduction Plan for the 2025–2029 period.

Sekopak enjoys the trust of leading corporations

Q: What recycling and environmental protection innovations are most important to your company?

A: Even when everything is running smoothly, asking how we can improve is crucial. If we hadn't strived for innovation, we wouldn't be where we are today—industry leaders for the ninth consecutive year.

One of the innovations introduced by Sekopak in Serbia is recycling machines. Citizens of Novi Sad, Kragujevac, Aranđelovac, and Niš have deposited over 500,000 packaging units into these machines so far, demonstrating the potential of new technologies. We have learned a lot through projects involving smart recycling and will continue to learn as technology advances.

Moreover, we invest in digital communication channels, such as TikTok, to capture the attention of younger generations. We believe that an innovative approach to communication and education is crucial for motivating citizens to recycle.

Q: What is Sekopak doing to contribute to environmental protection and the reduction of the ecological footprint?

A: Last year, the contribution to carbon dioxide emission savings in Serbia through packaging waste recycling amounted to almost 88,000 tons, of which Sekopak was responsible for as much as 61 percent of the national result.

I believe that recycling has long surpassed its ecological framework and has become a topic of importance for society. That's why we work extensively with children in cities across Serbia. We collaborate with around 30 local governments and strive to visit them each year to organize engaging educational sessions for citizens to motivate them to use the containers we have set up for separating packaging waste.

Q: How does your company collaborate with other firms to promote responsible business practices and raise awareness about the importance of recycling and waste management?

A: Sekopak enjoys the trust of leading corporations, which see us as a key partner and consultant in responsible packaging and packaging waste management. In collaboration with our clients, we have implemented numerous projects that explore and apply new practices, improving the existing recycling system.

Violeta Belanović
General Manager of Sekopak

An increasing number of companies recognize the importance of educating their employees about recycling, and many approach us with initiatives to organize packaging waste collection at events they sponsor. These partnerships are crucial for promoting responsible business practices and strengthening the recycling culture in Serbia.

Q: What are your goals for the coming years regarding business development and ecological initiatives?

A: In collaboration with the Ministry of Environmental Protection and the association of system operators, we will continue to improve the packaging waste management system alongside legislative changes that will enhance primary waste separation and citizen education. We will intensify cooperation with local governments and municipal enterprises to improve recycling infrastructure and make waste separation easier to achieve national targets. Educating the youngest through projects with schools and competitions in packaging collection is a key focus for raising awareness and ensuring long-term sustainability.

Interview by Milica Radičević

SUPPORTING THE DEVELOPMENT OF SUSTAINABLE SOLUTIONS

The fight to preserve nature demonstrates that true success requires dedication, courage, innovation, and, above all, collective action, as these challenges surpass the capabilities of individuals or single nations. In a world grappling with such challenges, countless ideas are born. Many have the will, knowledge, and concepts that could contribute to solutions, but these often remain unrealized visions due to a lack of necessary support and resources.

This need was recognized in 2011, and the Innovation Fund was established to enhance Serbia's innovation ecosystem. The Fund provides financial, mentoring, and advisory support to innovative teams, startups, small and medium-sized enterprises, and research organizations that develop new products, technologies, and business models. By fostering collaboration between academia and the business sector and applying ethical and professional standards, the Fund is a key pillar for creating sustainable solutions that change the world.

We spoke with Milena Kostadinović, Special Advisor for International Cooperation at the Innovation Fund, about the Fund's activities and the importance of the innovations it supports.

From its inception, the Fund has been tasked with driving the development of innovative entrepreneurship by encouraging community funding and enabling the creation

Photograph: Unsplash/Marvin Meyer

of market-ready solutions. The foundations for a dynamic innovation ecosystem have been laid through appropriate financial mechanisms, now encompassing numerous support organizations, developed infrastructure, competitions, and access to diverse funding sources.

The Fund's support plays a crucial role in fostering economic and social development and improving environmental protection. The innovative projects it finances contribute to economic growth, job creation, increased competitiveness of domestic businesses, and the strengthening of a knowledge-based economy. Innovations in healthcare, education, and digitalization enhance the quality of life. At the same time, the environmental dimension of its support is reflected in the active financing of green technologies and sustainable solutions that reduce negative environmental impacts.

Notably, the Fund independently assesses the environmental and societal impact of all projects submitted for support, regardless of their field, and only supports those without negative impact.

The growing number of applications to their programs confirms the increasing interest in innovation projects in Serbia, particularly in the fields of digital technologies, sustainable solutions, and artificial intelligence.

"These projects have significant potential for entering international markets, further motivating businesses to improve their operations and achieve global success."

The increase in the number of applications to the Fund's programs confirms the growing interest in innovation projects in our country, particularly in the fields of digital technologies, sustainable solutions, and artificial intelligence

Among the most successful ecological projects supported by the Fund this year is ECO Hive with its project Hives of the Future, a revolutionary solution in beekeeping aimed at combating Varroa mites—one of the biggest challenges beekeepers worldwide face. ECO Hive has developed an advanced device that effectively eliminates Varroa without the use of chemicals, providing bees with a healthier environment.

The year 2024 was exceptionally successful, marked by significant strides in enhancing Serbia's innovation ecosystem. Efforts were focused on tailoring programs to meet user needs, making support more efficient and comprehensive. Among numerous activities, the following were implemented:

The fourth public call for the Smart Start program, the Katapult accelerator, which facilitated collaboration between startups and international mentors and investors, an increased budget for innovative research projects within the Technology Transfer Program, the pilot GovTech program, which created space for innovative solutions in the public sector, and The Serbia Ventures program, with a focus on artificial intelligence, which further strengthened the innovation ecosystem.

The Fund's priorities for 2025 include further development of existing programs, with a particular focus on supporting artificial intelligence projects to enhance the competitiveness of domestic businesses. The Fund will continue strengthening international cooperation and connecting with leading actors in innovation ecosystems, facilitating knowledge exchange and creating new opportunities for innovative projects.

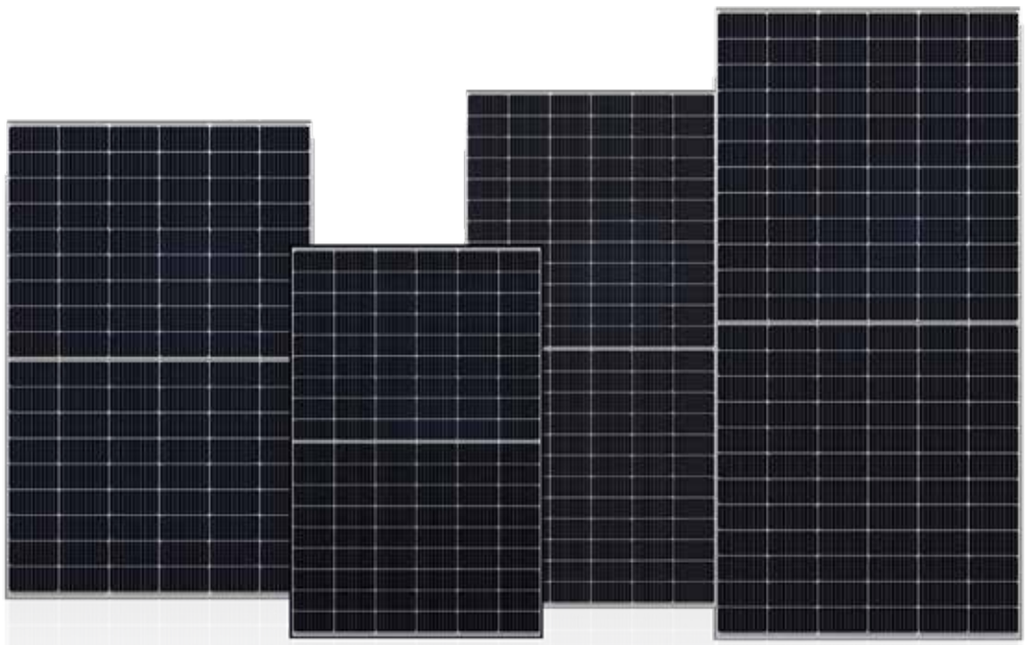
Plans also include continuing programs supporting less developed regions. One key objective is integrating research institutions into entrepreneurial activities. This will provide young researchers with opportunities to contribute to creating new value and strengthening the domestic innovation scene.

The ultimate goal is for Serbia to gain international recognition as an innovation hub, with the potential to develop startups capable of becoming global leaders, thereby contributing to sustainable development and strengthening the economy.

Prepared by Katarina Vuinac

Photographs: (left) Pixabay/T Hansen; (right) Pixabay/This_is_Engineering

LUXOR
solar module manufacturer



HOW SOLAR COMPANIES RESPOND TO GLOBAL CHALLENGES

Solar power plants will remain to be a key energy source and an important part of countries' supply of renewable energy sources

In the world of renewable energy, the solar industry is undergoing dynamic changes that shape its future development. Intense competition among panel manufacturers, growing investor expectations, and technological innovation are raising numerous questions about the viability of the market and the prospects of solar power plants. We spoke with Nino Sijerić, a business development expert at Luxor Solar GmbH, a company known for high-quality photovoltaic modules, about the challenges and trends in the industry, key criteria for panel selection, and the importance of trust in relationships between investors, EPC companies, and manufacturers.

Q: The solar panel market is going through a turbulent period – intense competition among manufacturers has led to a price drop and decreased profitability. How will this trend affect European manufacturers in the coming years?

A: This trend will lead to market consolidation. Some companies will pull out, while others will change ownership structure. Investors will become more cautious when choosing partners and cooperate only with trusted companies. The current situation in the solar power plant market introduces a lot of uncertainty in decision-making. Today, investors not only choose modules and contractors, but the reputation of the company behind the product is also essential. If the price is the main factor in the decision, investors will face problems in the long run – sooner or later, they'll have to pay.

Q: What characteristics must a company have to survive such a challenging period?

A: Flexibility is the key word, and quick reactions and adaptation to mar-

Photographs: Luxor Solar

ket changes will be decisive. I call it 'photovoltaic Darwinism' – it will not be the largest and strongest that survives, but those who adapt the fastest to the market needs. Speed of decision-making and innovation will be of critical importance. For example, products adapted to specific customer needs will help them choose the optimal solution more easily.

Q: There are now many models of solar panels on the market with varying prices and quality. How would you advise customers to make the best choice?

A: When selecting solar panels, customers should consider several key factors to ensure maximum return on investment and long-term benefits: price – it is vital to find a balance between price, efficiency, and warranties; the cheapest panels are not always the best solution; quality – choosing renowned manufacturer often means better after-sales support and reliability regarding panel longevity; efficiency (a higher level of efficiency means fewer panels needed for the same energy production) and warranty – most panels come with a 25-year energy production warranty, and some offer even more extended warranties on the product itself. Customers should definitely consult experts and installers to assess their energy needs and choose the best product. In the long run, quality will always outweigh the low price.

Q: How important is it for customers to know the company behind their modules?

A: Knowing the manufacturers of solar panels is crucial for making well-informed decisions and ensuring long-term investment value. The quality and reliability of the panel are inextricably linked to the manufacturer's reputation, which reflects the performance and durability of the product. Warranties play a key role in the security of the investment – it is particularly important whether the warranties are tied to a company based in the European Union or China.

Flexibility is the key word, and quick reactions and adaptation to market changes will be decisive

Renowned manufacturers often provide top-level maintenance and service support throughout the entire lifecycle of the panels, significantly contributing to their longevity. Additionally, ethical principles and business sustainability are becoming increasingly important factors in the selection process, as today's customers value companies that operate in accordance with sustainable practices.

The financial stability of manufacturers is also of critical importance. Companies with a long-standing market presence and consistent ownership structure provide additional security and trust. This information enables customers to choose panels that ensure optimal performance and long-term value for their investment.

Q: Last year, solar energy was the leading renewable energy source in terms of new installations. Will changes in the solar panel market affect its further development?

A: Solar power plants will continue to be a key energy source and an important part of the countries' supply of renewable energy sources. However, we will face challenges such as grid balancing in the future. Already, some countries produce as much as 60 percent of their energy from solar sources during the summer, which sometimes creates a surplus that the grid cannot receive. The solution will be to store energy in batteries, allowing surplus energy to be used when there is no sun and relieving the grid system. Once batteries reach technological maturity and longevity of 20 years or more, the solar revolution will truly take off – every household or factory will be able to be energy-independent.

Nino Sijerić

Business Development Expert at Luxor Solar GmbH

Q: How can mutual trust be ensured between investors, EPC companies, and solar panel manufacturers?

A: Trust is built based on experience and proven results. The more satisfied solar power plant users are, the greater the trust in the technology and contractors. Panel manufacturers gain trust through their performance. For example, at the exact location and with the same inverter systems, an investor who used Chinese TIER 1 modules had 20 percent less production than one who used Luxor modules. When you multiply that percentage by 20 years, it becomes clear why trust in quality is essential – both in terms of modules and contractor recommendations.

Interview by Milena Maglovski

Photograph: courtesy of Nino Sijerić

CHOOSE THE RIGHT PATH TO THE ELECTRIC FUTURE

Charge&GO's customer support is available 24/7 for any questions or issues

People are constantly looking for ways to save. Although we often hesitate to invest significant funds if the return period is long, electric vehicles—which will gradually become more accessible—prove to be an option that offers advantages even when considering short-term effects. In our region, there is still skepticism toward electric vehicles, often supported by the usual tendency of people to look for and absorb only information that confirms their original and, of course, always correct opinion.

Therefore, a handful of arguments such as 'there are not enough chargers for all users' or 'electric vehicles are not practical for long journeys' often overshadow the numerous advantages, like reduced noise and pollution, savings on charging compared to fuel costs, and other benefits. It is precisely these kinds of established arguments that Charge&GO, a company that has been developing a network of chargers and supporting electric vehicle drivers in Serbia for years, whether they are local drivers or transit users, aims to address. The invested effort is paying off – the number of charging sessions has increased from just a few dozen in 2020 to tens of thousands in 2024.

Due to its regenerative braking function, an electric car is a lifesaver for those regularly stuck in city traffic. When we also consider highly volatile fuel prices and the announcements from the relevant ministry about all the benefits expected for electric car

Photographs: Charge&GO

owners – such as lower tolls and free parking – the savings would indeed be evident with every kilometer traveled. While there is still plenty of room to improve infrastructure, regulations, and other aspects, it cannot be denied that Serbia is making great strides towards electromobility.

If we consider fuel prices, which are very unstable, and the announcements of the relevant ministry about all the benefits awaiting electric car owners – such as lower tolls and free parking- the savings would be evident on every kilometer of the road. Although there is a lot of room for improving infrastructure, regulations, and other issues, the fact that Serbia is making great strides towards electromobility cannot be denied.

Easier Driving with the Charge&GO App

Charge&GO offers a solution that eliminates the worry of having enough funds in your account when recharging your vehicle's battery. With over 4,500 users, their app allows for easy and efficient charging management. Thanks to integration with the largest e-roaming platform, users can create an account on the platform and gain access to a network of 400,000 chargers across Europe. After registration, users can enjoy specific benefits and better charging prices.

Chargers can be easily located via the map on the app, where users can check availability, connector type, and prices. Payment is automatically processed from the user's account after entering the payment card. There is an option for one-time payments for those who do not wish to register. Additionally, Charge&GO's customer support is available 24/7 for any questions or issues.

For anyone who is not sure how to start the charging process or has any doubts, Charge&GO engineers are available to provide answers to all questions

Call for Proposals and Collaboration

The Charge&GO company invites interested parties to submit proposals for new charger locations via the e-mail address elektropunjaci@chargego.rs and request offers for the integration of their chargers into the Charge&GO platform.

Additionally, the company offers installation of chargers on a turn-key basis, whether AC or DC models. The expert team conducts an on-site evaluation, assesses the location, and handles the entire project – from planning to installation. For anyone who is not sure how to start the charging process or has any doubts, Charge&GO engineers are available to provide answers to all questions.

Whether at gas stations, business premises, hotels, or home setups, Charge&GO provides solutions tailored to users' needs and capacities. By constantly expanding the network, the company is working to overcome misconceptions and make e-mobility a practical and accessible option for everyone. With its efforts, Charge&GO enables users to enjoy the everyday benefits of electric driving.

Prepared by Milica Vučković

WHERE IS THE GLOBAL CLIMATE FIGHT LEADING US?

Climate change has been identified as one of the most serious challenges the world is currently facing. Its gravity was recognized long ago, as evidenced by the first United Nations Climate Change Conference (COP1), held in 1995 in Berlin. Since then, 29 conferences have taken place, yielding numerous vital agreements and decisions. Among these, the Paris Agreement stands out, adopted by 196 countries at the 2015 UN Climate Change Conference (COP21) in Paris. The key goal of the agreement is to limit global warming to 1.5 degrees Celsius by the end of this century. This objective has become the cornerstone of all subsequent conferences, including this year's COP29, held in November in Baku, the capital of Azerbaijan.

The following text highlights some of the most significant decisions and achievements from this year's conference.

Climate Financing

Climate financing, a critical topic during previous conferences, was prioritized at this year's event. On the first day, Mukhtar Babayev, President of COP29, warned that current policies are leading to global warming of 3°C, which would have severe consequences. He emphasized the importance of achieving the New Collective Quantified Goal for climate financing (NCQG), which would set the financial contributions from

Photograph: Pixabay/nattanan23

developed countries to support developing nations. Babayev urged countries to update their climate contributions and national adaptation plans by 2025.

By the third day, the first draft decision on the NCQG was published, and by the end of the conference, discussions were facilitated to reach a final agreement.

Multilateral Development Banks (MDBs) announced annual financial contributions of 120 billion dollars for low- and middle-income countries by 2030, including 42 billion dollars for adaptation and 65 billion dollars from the private sector. For high-income countries, 50 billion dollars was allocated, with seven billion dollars designated for adaptation and an additional 65 billion dollars mobilized from the private sector.

The Asian Development Bank (ADB) has launched a program for sustainable water use and food security in Central Asia, the South Caucasus, and Pakistan to address the impact of glacier melting. The Green Climate Fund (GCF) supports the program, including risk assessments in Azerbaijan, Kyrgyzstan, Tajikistan, and Uzbekistan. It plans to mobilize up to 3.5 billion dollars to support sustainable agriculture, water resources, and vulnerable communities in mountainous areas.

Azerbaijan's banking sector has announced an allocation of 1.2 billion dollars by 2030 to support green and sustainable projects, aiming to transition the country to a low-carbon economy.

The most significant success in climate financing at COP29 is the full operationalization of the Fund for Responding to Loss and Damage, which is now ready to receive contributions

The most significant success in climate financing at COP29 is the full operationalization of the Fund for Responding to Loss and Damage, which is now ready to receive contributions. The Fund's establishment was agreed upon during COP27, and the first projects are expected to be funded in 2025. To date, pledged financial support exceeds 730 million dollars, with funds earmarked for small island states, least developed countries, and African nations.

Declarations and Initiatives Launched at COP29

The opening days of the Conference were marked by the adoption of the Baku Declaration on Amplifying SIDS' Voice. The declaration highlights the severity of climate change and its disproportionate impact on vulnerable groups, particularly small island developing states (SIDS). It calls for urgent action and robust international support to strengthen SIDS' resilience to climate change and ensure a sustainable future.

The COP29 Presidency launched the Declaration on Reducing Methane from Organic Waste, supported by over 30 countries, including Serbia. The signatories, accounting for 47 percent of global methane emissions from this source, committed to setting sector-specific targets in future Nationally Determined Contributions (NDCs). This decision is critical to achieving the goals of the Global Methane Pledge initiated at COP26 in 2021, which aims to reduce at least 30 percent below 2020 levels by 2030.

Another significant moment was the launch of the Baku Call for Climate Action for Peace, Assistance, and Recovery (BCCAP), which aims to address the urgent links between climate change, conflict, and humanitarian needs. This initiative responds to the growing recognition that the adverse effects of climate change – such as water scarcity, food insecurity, land degradation, displacement, and livelihood disruptions – contribute to conflict and instability, particularly in vulnerable regions.

The Baku Climate and Peace Action Hub was established as part of the initiative. This platform coordinates

Photograph: Pixabay/valentin_b90

activities to support the most vulnerable communities affected by climate and conflict-related crises.

Three Energy Initiatives Launched by the COP29 Presidency – The COP29 Presidency introduced three major energy initiatives focusing on energy storage, green energy zones, and hydrogen:

COP29 Global Energy Storage and Grids Pledge – Signatories committed to installing 1,500 GW of energy storage capacity and adding 25 million kilometers of new or upgraded grids by 2030.

COP29 Green Energy Zones and Corridors Pledge: This initiative aims to promote green zones and corridors that connect renewable energy sources (RES) with the most vulnerable communities by developing interconnected power grids.

COP29 Hydrogen Declaration – Focused on increasing the production of renewable, clean, and low-emission hydrogen while reducing reliance on fossil fuels for current hydrogen production. The goal includes significantly boosting green hydrogen production from the current one million tons per year and reducing the 96 million tons of hydrogen currently produced using fossil fuels.

Another key moment was the launch of the Baku Call for Climate Action for Peace, Assistance, and Recovery (BCCAP), aimed at addressing urgent links between climate change, conflict, and humanitarian needs

The 10 GW Lighthouse Initiative, backed by international and national development finance institutions, further supports the development of renewable hydrogen. According to the official COP29 website, the initiative aims to collaborate on renewable hydrogen projects in developing and emerging countries with capacities ranging from 100 MW to 1 GW, reaching the final investment decision (FID) stage by 2030.

The COP29 Presidency launched the Baku Harmony Climate Initiative, a partnership with the UN Food and Agriculture Organization (FAO) that aims to support farmers through an online portal and guidelines. Azerbaijan also announced the development of a methane emissions reduction roadmap in agriculture in collaboration with UNEP's Climate and Clean Air Coalition.

On the penultimate day of the Conference, the Presidency introduced the COP29 Declaration on Water for Climate Action, supported by nearly 50 countries. The declaration commits signatories to adopt integrated approaches to address root causes and work collaboratively to generate scientific evidence on the causes and impacts of climate change on water resources and watersheds. This paves the way for stronger international and regional cooperation.

Photographs: (left) Pixabay/unitea; (right) Unsplash/Zhang qc

Three energy initiatives launched by the COP29 Presidency focus on energy storage, green energy zones, and hydrogen

The Baku Dialogue on Water for Climate Action was launched on the same day, bringing together high-level representatives from the EU, Finland, The Gambia, Germany, Moldova, the Netherlands, Slovenia, UAE, the UK, and the USA. This platform aims to strengthen collaboration between COP conferences on water issues and their impacts on climate change, biodiversity, pollution, and desertification, ensuring the topic remains on the climate agenda.

Key Progress on Carbon Markets Under Article 6

COP29 achieved a significant milestone, resolving a decade-long negotiation on carbon markets under Article 6 of the Paris Agreement. This article allows countries to collaborate in reducing emissions through carbon credit markets. It is estimated that this mechanism could reduce the annual costs of implementing national climate plans (NDCs) by up to 250 billion dollars.

The Baku Financial Goal (BFG)

One of the most debated decisions was establishing the Baku Financial Goal (BFG), which aims to direct 1.3 trillion dollars in climate financing to developing countries by 2035. The goal includes a commitment from developed countries to mobilize at least 300 billion dollars annually, with a particular focus on least developed countries and small island developing states. However, recipient countries argue that this amount is insufficient to achieve the necessary results for climate action.

COP29: Collaboration and Finance Mobilization

COP29 once again underscored the critical importance of collective collaboration and mobilizing climate finance where it is most needed. While significant decisions, such as the operationalization of the Loss and Damage Fund, were adopted, questions remain about how effectively these measures will deliver concrete results. Uncertainty surrounds the scale of available funds and their application toward achieving global climate goals.

Prepared by Katarina Vuinac

Photograph: (left) Pixabay; (right) Unsplash/Unsplash/Louis Maniquet

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SUSTAINABILITY SOLUTIONS TAILORED BY ABB

In a world where business success often conflicts with ecological challenges, ABB provides an inspiring example of how responsible business practices can go hand in hand with environmental preservation. Through innovative solutions, ABB has combined sustainability with the latest technological achievements, enabling industries, the energy sector, and transportation to reduce emissions and improve energy efficiency drastically. We discussed the objectives and strategies that justify ABB's status as a leader in energy efficiency with Sandra Vidal, Lead Sustainability Manager, ABB Motion Southern Europe, and Milan Jevremović, Local Business Manager at ABB Motion, Serbia.

ABB takes pride in its role as a technological leader in electrification and automation, positioned at the forefront of accelerating the energy transition

Q: Can you explain ABB's commitment to the circular economy in more detail? What steps are you taking to enhance product longevity, recyclability, and efficient resource usage?

Sandra Vidal: ABB's sustainability agenda fully aligns with the company's mission. We focus on three pillars: enabling a low-carbon society, conserving resources, and advancing social progress, reduce waste, protect water and biodiversity, and use land responsibly. Regarding the circular conomy pillar, our goal is reduce waste, protect water and biodiversity, and use land responsibly.. To achieve this, we strive to incorporate circularity principles across all product lifecycle stages, from design and procurement

Photographs: ABB

to production, use, and responsible end-of-life management. ABB aims to ensure that at least 80 percent of our product and solution portfolio adheres to circularity principles and to eliminate landfill waste wherever possible between 2020 and 2030. Additionally, we support our clients in improving their circular economy practices through technologies such as retrofitting services, take-back and recycling programs, and ABB's product and solution portfolio.

Q: ABB assists clients in reducing carbon dioxide emissions and is dedicated to lowering its emissions through Science Based Targets (SBTi). Could you briefly explain this initiative and how ABB aligns its operations with its principles?

Sandra Vidal: Enabling a low-carbon society is the first pillar of ABB's sustainability agenda, reflecting our commitment to achieving net-zero emissions by 2050 and partnering with clients to avoid emissions. To this end, we set stringent net-zero targets aligned with the Science Based Targets initiative (SBTi). International recognition and validation of our goals lend credibility, underscoring our dedication to climate action and our role in addressing urgent challenges climate change poses. As science evolves, SBTi will adapt, and we will continue collaborating with the scientific community to ensure our targets are impactful and relevant.

Q: ABB plans to reduce direct and indirect emissions by 80 percent by 2030 compared to 2019. Its long-term goal is to eliminate these emissions entirely by 2050. What strategies and technologies will help achieve these ambitious goals?

Sandra Vidal: ABB has developed a clear strategy to achieve its emission reduction targets for 2030 and 2050. This strategy includes several key initiatives and technologies, such as electrifying the entire vehicle fleet, using 100 percent renewable electricity, and implementing energy management systems across all facilities to improve energy efficiency. The carbon dioxide reduction strategy also emphasizes the principles of the circular economy, such as resource conservation and waste elimination, to support a more efficient and sustainable business model. However, ABB cannot achieve these challenging goals alone. The company collaborates with suppliers and clients to reduce emissions across the entire value chain, ensuring a comprehensive approach to sustainability.

Sandra Vidal
Lead Sustainability Manager, ABB Motion Southern Europe
Milan Jevremović
Local Business Manager at ABB Motion, Serbia

Q: ABB technologies enable emissions reductions in industries, transportation, buildings, data centers, energy, and other sectors. Can you elaborate on these technologies?

Milan Jevremović: ABB offers various solutions to enhance industrial efficiency and sustainability. In industry, these include advanced automation systems that optimize production processes, energy-efficient motors and drives that reduce electricity consumption, and smart sensors and analytics that provide continuous energy management improvement insights. In transportation, ABB leads the shift toward a sustainable future with a comprehensive portfolio of electric vehicle chargers, including high-power chargers for faster EV adoption and railway electrification systems that significantly enhance efficiency and reduce fossil fuel use. ABB's intelligent automation systems efficiently manage heating, ventilation, air conditioning, and lighting in buildings, improving

In transportation, ABB leads the shift toward a sustainable future with a comprehensive portfolio of electric vehicle chargers

comfort and security while reducing energy consumption. In Serbia, for example, ABB has implemented energy management systems in large buildings that integrate renewable energy sources and optimize consumption. ABB provides energy-efficient power distribution systems and advanced monitoring solutions in data centers that ensure optimal energy usage. In the energy sector, ABB drives the transition to renewable energy by integrating renewables into the grid, offering solutions for wind turbine power, energy storage, grid automation technologies, and digital solutions for energy production and distribution. Overall, ABB's technology portfolio is designed to tackle challenges across various sectors, promoting energy efficiency and sustainability while significantly reducing greenhouse gas emissions.

Q: How does ABB integrate sustainable practices into its core operations? How do you collaborate with suppliers and partners to ensure adherence to sustainability standards across the supply chain, particularly regarding environmental, social, and governance (ESG) criteria and carbon emissions?

Sandra Vidal: ABB takes pride in its role as a technological leader in electrification and automation, positioned at the forefront of accelerating the energy transition. Every day, we empower our clients worldwide to optimize, electrify, and decarbonize. In doing so, ABB helps its clients remain competitive while reducing their carbon footprint. Simultaneously, through our activities, we make the way we move, produce, work, and live more sustainable overall. This is our mission, and ABB's sustainability agenda is fully aligned. Over the past few years, we have focused on sustainability within ABB, establishing clear processes and management frameworks. It is time to extend this practice across our value chain in collaboration with our clients, suppliers, and partners. Our commitment goes beyond merely working with suppliers to make our supply base more sustainable than it currently is. We also strive to collaborate and engage beyond traditional audits to support them on their journey toward sustainability—this is something much more significant.

Q: How much have your clients managed to reduce or avoid carbon dioxide emissions thanks to ABB technologies? Could you share examples from the region?

Milan Jevremović: Our clients must consistently maintain high-performance levels while meeting demanding market goals. They must be more productive, efficient, and sustainable. And now, I must say, they need to be 'leaner and cleaner' —and we are here to help them achieve that. ABB has actively participated in numerous local activities and projects across various sectors, particularly in Southern Europe. Let me highlight a few examples: We have collaborated with a leading energy company in Sweden to avoid approximately 100,000 tons of carbon dioxide emissions annually by implementing ABB's smart grid solutions and renewable energy integration systems. In Serbia, we have been involved in several projects in the energy sector. One significant example is the Bajina Bašta Hydropower Plant. Installing a static freQuency converter has enhanced the efficiency of RHE Bajina Bašta in multiple aspects. In the construction sector, I would highlight smart home systems implemented in a new residential complex in Novi Dorćol. In the data center sector, the Data Center in Kragujevac serves as an excellent example of how ABB smart power solutions significantly improved efficiency and contributed to the overall performance of the data center. From the region, a recent example from Hungary stands out: we delivered our high-efficiency IE5 synchronous reluctance motors and drive packages to modernize pump applications for the GlaxoSmithKline vaccine plant.

This modernization significantly improved energy efficiency, with the investment expected to pay off in just two years. In Bulgaria, we carried out a significant project at a factory Aurubis where we had a three-year agreement to enhance the energy efficiency of the entire plant. This involved over 800 high-efficiency motors and drives, enabling the metal factory to operate more efficiently. Looking ahead, our plans include expanding efforts in green hydrogen production. These initiatives reflect ABB's commitment to innovation and demonstrate our determination to meet current environmental standards while setting new benchmarks to ensure a greener future.

Q: Have there been any local activities or projects that showcase ABB's commitment to sustainability? Are there plans for the near future?

Milan Jevremović: I would like to highlight some activities where we promote or collaborate with other companies on initiatives that demonstrate how we can help others become more sustainable and develop their sustainability goals. This year, ABB Serbia was a partner in the Smart Cities project organized by the Nordic Business Alliance in Serbia. This project aimed to build smarter and more sustainable communities in Serbia. The project was launched in Kragujevac in April, gathering over 200 participants, including all four Nordic ambassadors, a government minister, the mayor of Kragujevac, and speakers from Nordic countries and Serbia. An important aspect of this initiative was creating urban spaces that are not only technologically advanced but also environmentally friendly and socially beneficial. By implementing the smart cities concept, urban areas can optimize public transportation, improve energy efficiency, and enhance digital services. During the event, it was emphasized that technological innovation is a key driver of smart city transformation. However, it is not the only factor driving change. Effective leadership, collaborative planning, and active community engagement are also necessary to fully realize the potential of smart cities. This initiative demonstrates one of the ways we collaborate with local communities to support them on their path toward more sustainable and smarter development. In the near future, we plan to organize a local event dedicated to sustainability, bringing together our clients and suppliers to discuss their sustainability agendas. The goal is to share best practices, understand their needs, and jointly develop activities. We aim to create a local community that will collectively lead us toward greener, more efficient, and sustainable development.

Interview by Milena Maglovski

CHALLENGES IN IMPLEMENTING ESG PRINCIPLES

In recent years, there has been increasing discussion about sustainable business practices and integrating ESG principles into the business models of entrepreneurs and companies. While awareness of the importance of sustainability is growing, the implementation of ESG principles in Serbia is still in its developmental phase, with many entrepreneurs facing challenges in adapting to new market demands. As the global economy demands responsible business practices, the pressure on entrepreneurs to adopt sustainable practices is increasing, raising the question of accelerating the integration of ESG factors into business operations.

Although entrepreneurs in Serbia recognize the importance of sustainable business practices, implementing ESG principles remains challenging, particularly for small and medium-sized enterprises (SMEs) and traditional industries. Large companies, especially those involved in exports, are quicker to adopt these standards, while smaller entrepreneurs face obstacles such as a lack of expertise and high initial costs. The Chamber of Commerce and Industry of Serbia (PKS) plays a crucial role in advising entrepreneurs on ESG standards, organizing training sessions, and providing legal guidance. Despite recognizing the importance of ESG factors, further investment in specialization and capacity building is needed for more efficient implementation among entrepreneurs.

"One of the key steps has been the establishment of the Responsible Business Hub, a customer service initiative that helps entrepreneurs better understand EU market demands and align with ESG-related legislation. Through creating an ESG glossary, translation of key regulations, and training sessions for entrepreneurs, PKS provides essential support in understanding market demands and new legislative obligations," explains

Photograph: Pexels/Arthur Ogleznev

Tanja Lindell from the Chamber of Commerce and Industry of Serbia.

Legislative changes in Serbia will undoubtedly move toward alignment with global and EU regulations regarding ESG standards. Although the current legislative framework is not sufficiently developed, there is a clear need to introduce new legal frameworks to ensure better environmental protection, enhance social responsibility, and improve governance practices. This includes aligning domestic legislation with human rights protection, working conditions, occupational safety, and better governance, particularly regarding transparency and ethical business practices.

Moreover, it is essential to educate entrepreneurs and provide adequate support for implementing ESG principles. Financial incentives and tax reliefs should also facilitate the transition to green business models. To accelerate the green transformation, appropriate subsidies, training, and advisory services must be provided to entrepreneurs, who should also be encouraged to find innovative solutions that will enable them to become more competitive in global markets.

"Entrepreneurs, especially those engaged in exports, recognize the need for sustainable business practices, although many still hesitate due to challenges such as high initial costs and lack of awareness. Sectors like energy, agriculture, manufacturing, and transportation show the greatest potential for green transformation, as the prerequisites for introducing green technologies are already in place", adds Tanja Lindell.

ESG principles are becoming a key factor in business competitiveness, including for small and medium-sized enterprises (SMEs) in Serbia. Adopting ESG principles enhances corporate image, improves market and investment access, reduces costs through greater efficiency, aids compliance with future regulations, and attracts talent. Implementing ESG principles can be a competitive advantage, particularly in EU markets, where this approach is already well-established.

Although ESG reporting is not widespread among entrepreneurs, the situation is gradually improving. Entrepreneurs increasingly recognize the importance of sustainability and responsible business practices, but reporting on ESG issues remains challenging, particularly for SMEs. According to domestic legislation, only companies with over 500 employees are required to report on ESG standards. Companies face challenges such as data collection, lack of standardization and methodology, high compliance costs, and poorly defined reporting methodologies.

"Improving ESG reporting requires investments in education, financial and tax incentives, standardization, and facilitating alignment with international standards, as well as developing infrastructure for data collection. This will help entrepreneurs more easily implement ESG principles and achieve transparency in their operations," emphasizes Lindell.

Implementing ESG principles remains a challenge for many entrepreneurs in Serbia. However, awareness of their importance is growing, and organizations like the Chamber of Commerce and Industry of Serbia (PKS) provide crucial support for a faster and more efficient transition. With an appropriate legislative framework, education, and assistance for entrepreneurs, the process of integrating ESG factors can be accelerated, contributing to the competitiveness of Serbia's economy on a global level.

Prepared by Milica Radičević

Education

The Chamber of Commerce and Industry of Serbia has organized Responsible Business Hub training sessions on carbon management. Over 300 participants have attended the CBAM – How to Prepare a Report workshop. PKS is key in supporting entrepreneurs in reducing carbon dioxide and other greenhouse gas emissions. Through education, access to green technologies, financial incentives, and alignment with international standards, PKS helps businesses achieve sustainable practices that not only reduce their environmental footprint but also make them more competitive in the global market.

Photograph: PKS

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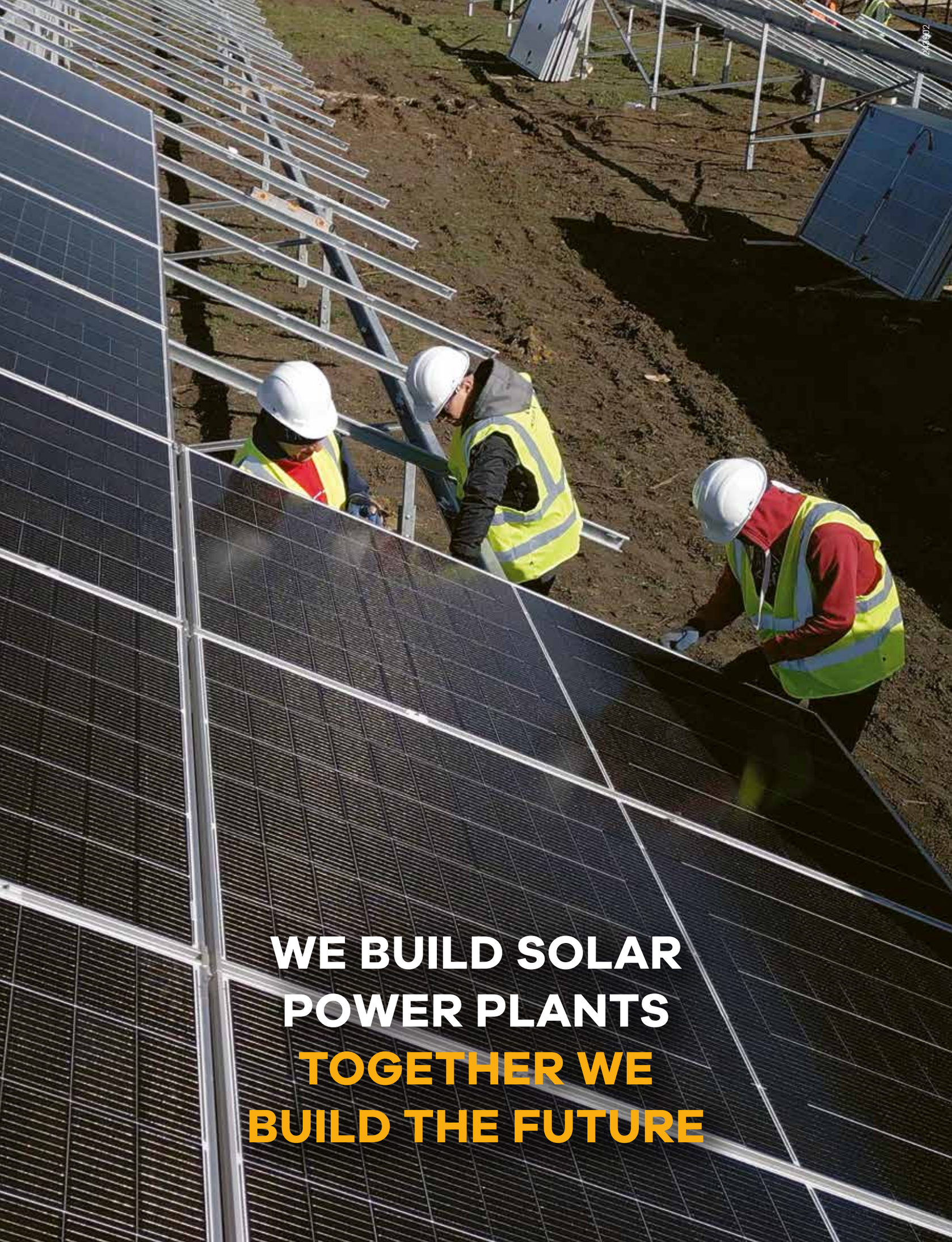

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RESPONSIBILITY FOR SUSTAINABILITY:

BUSINESS PRACTICES AS AN OPPORTUNITY FOR CHANGE

Sustainable business is a concept that has recently gained both significance and popularity. ProCredit Bank Serbia has undertaken a series of initiatives to contribute to sustainable practices in its operations to ensure it doesn't remain just a buzzword. On this journey, we have found an unexpected but reliable partner—our clients. Together, we form a harmonious ecosystem that achieves remarkable results not only in business but also in the domain of sustainability.

Photographs: ProCredit Banka

Actively participate in creating a better, healthier, and more stable future for all of us

Clients as Catalysts for Change

Through our previous practices—first with the initiatives of our Holding, of which we are a member bank, and then through changes and processes we implemented locally, as detailed in our standalone report (Sustainability Report)—we have taken on the responsibility for sustainability.

This responsibility extends beyond considering what actions we can take to ensure the positive impact of our operations on the environment and the community. We also take responsibility for the long-term effects we indirectly influence, such as our clients' business practices. For this reason, at the Holding level, we have decided to strictly ensure that the organizations we collaborate with align with our values and responsibilities.

Direct and Indirect Impacts from a Sustainability Perspective

The idea of working exclusively with individuals and organizations striving for sustainable practices is reflected in our green portfolio. This portfolio represents one of three pillars on which our approach to environmental preservation is based:

- **Internal Environmental Management System** – This system involves monitoring energy and resource consumption within the bank, systematically and strategically reducing it, raising employee awareness, and collaborating with green suppliers.
- **Managing Environmental and Social Risks in Lending** – In Serbia, we implement an environmental protection management system based on the continuous assessment of our credit portfolio according to the criteria of environmental protection and clients' social responsibility. This includes a thorough analysis of all economic activities that pose potential risks to the environment and the community and rejection of credit applications from companies involved in environmentally risky activities or those listed under excluded activities by our institution.
- **Green Loan Portfolio** – After promoting investment in the green economy for over a decade, we have expanded our range of green financing products and services, including loans for energy efficiency, renewable energy sources, and other environmental protection measures for businesses, households, and individuals.

The Future is Green: Clients as Partners on the Path to Sustainability

Our journey toward achieving net-zero emissions in Scope 3 is client-focused. We recognize the significant role and responsibility the financial sector plays in supporting the decarbonization of the real economy. This is one reason why we are committed to actively engaging with our clients to support their transition toward achieving net-zero emissions.

Supporting Our Clients' Transition

We aim to support clients in their decarbonization efforts through carbon accounting, setting emission reduction targets, and providing financial support to implement their strategies. By 2030, we aim to focus on clients responsible for 28 percent of the carbon dioxide emissions in our loan portfolio, with a particular emphasis on the agriculture and manufacturing sectors.

By choosing not to remain passive observers but to actively participate in creating a better, healthier, and more stable future for all of us, we have taken a significant step that will forever shape all our future initiatives and actions. While not all of us may be here to witness the results, we are confident that we are leaving behind a legacy that future generations will value.

ProCredit Bank

NUCLEAR REACTOR – A STATE'S SOVEREIGNTY

Since it was first mentioned, the potential development of a nuclear energy program in Serbia has sparked significant interest. A topic absent from public discourse for decades, it has now garnered widespread attention across society, from scientists, economists, and journalists to the general public. Amendments to the Energy Act, which would include lifting the current moratorium prohibiting the construction of nuclear facilities, would form the foundation for further decisions.

Since expertise should guide such a topic of national importance, we sought detailed insights from Slavko Dimović, PhD, Director of the Vinča Institute of Nuclear Sciences, the largest multidisciplinary institute in the Balkans. While we have only scratched the surface, we aimed to explore an optimal solution for Serbia and how to build a specialized workforce, particularly nuclear engineers.

Nuclear Energy for Base Consumption

Choosing nuclear energy raises a broad spectrum of critical questions and provides much-needed answers. On the one hand, nuclear power is a solution for achieving climate goals and moving away from fossil fuels, offering the most significant reduction in CO_2 emissions compared to other energy sources. Beyond ecological benefits and accelerated progress through the green transition, nuclear energy establishes a cornerstone for a country's energy security, enabling stable energy supplies independent of volatile prices, weather conditions, and political uncertainties.

As Dimović, PhD explains, achieving the set climate goals requires abandoning fossil fuels by 2050, while consumer societies are demanding ever more electricity. Serbia finds itself in a unique labyrinth: these goals

Photograph: Pixabay/JP

exert pressure on its economy, which risks losing competitiveness if it does not keep pace. Simultaneously, the chances of Serbia abandoning coal while maintaining energy security are slim. Serbia's situation with fossil fuels is precarious because its domestic resource—lignite—has low energy value and thermal power, even compared to other types of coal. The country's reserves are both insufficient in quantity and poor in quality, while coal imports are neither a sustainable nor long-term solution. Nuclear energy naturally emerges as a solution for self-sufficiency and a greener economy when considering

Serbia's situation with fossil fuels is precarious because its domestic resource—lignite—has low energy value and thermal power, even compared to other types of coal

penalties and pressures awaiting the domestic economy.

However, nuclear projects often face criticism for their tendency to exceed deadlines far more than other infrastructure projects. In addition to delays, nuclear power plant construction frequently suffers from budget overruns, sometimes doubling initial cost estimates. For example, one of the largest reactors in Finland, with a capacity of 1.6 GW, took 16 years to build. Despite these challenges, the numerous advantages of nuclear energy should not be overlooked.

Lessons from Chernobyl and Regulatory Frameworks

After the 1986 Chernobyl disaster, many countries worldwide tightened regulations and controls on radioactivity levels. At that time, Yugoslavia adopted stringent laws, setting limits four times stricter than those in the United States. Although the former state boasted exceptional experts, the inherited moratorium halted all scientific and technological progress in this field.

Serbia's Energy Strategy

The draft strategy for energy development in Serbia, discussed publicly earlier this year, outlines reforms in the energy sector. These include gradually introducing fees for greenhouse gas emissions and ambitious targets for renewable energy sources (RES). By 2040, Serbia aims for wind and solar capacities to exceed 10 GW, with renewable sources comprising around 70 percent of the energy mix. The development of nuclear energy is being considered, though no specific targets have been set.

Dimović, PhD suggests a more realistic figure of 30 percent renewable energy in Serbia's mix—this is not due to a lack of expertise but because of climatic and meteorological constraints. While alternative and nuclear energy technologies are not directly comparable, they should work symbiotically as they serve different purposes. Alternative sources depend on their performance characteristics, while nuclear energy can serve as a stable and consistent base. Serbia's reliance on coal remains a central issue; coal dominates electricity production, and entirely abandoning it seems impossible without a crucial energy solution. Still, when asked whether coal should be phased out, Dimović's answer is an unequivocal 'yes'.

Addressing Serbia's Energy Deficit

When considering energy solutions, one must account for Serbia's electricity deficit, estimated at 1.2 to 1.5 GW, according to Dimović. He recommends adopting regional practices, comparing Serbia with neighboring countries rather than larger players like France or Russia. Most of Serbia's neighbors operate second-generation Russian reactors with a capacity of

Photograph: Unsplash/Dan Meyers

After the 1986 Chernobyl disaster, many countries worldwide tightened regulations and controls on radioactivity levels

around 1 GW. While Chernobyl's reactor was also second-generation, it used a graphite moderator, unlike improved models in the region. Serbia, however, could turn to third-generation reactors, with fourth-generation thorium reactors currently under development globally.

Dimović, PhD suggests that Serbia's plan should involve constructing one or two conventional reactors with a capacity of 1.2 GW each. Another potential option is small modular reactors (SMRs), roughly the size of three or four stacked refrigerators, with capacities of up to 300 MW. These could be installed at decommissioned thermal power plants. However, he considers the first option more suitable for Serbia.

How to Educate Domestic Experts in Nuclear Engineering?

The shortage of skilled professionals is not limited to the nuclear industry; it is also evident in other sectors, including trades and driving professions. However, Slavko Dimović, PhD offers a potential solution to this issue:

"The planning process for a nuclear power plant takes three to five years. Once the state decides to secure funding and proceed with the reactor's construction, experts come from the country that provided the technology. In this scenario, foreign professionals manage the installation and technical oversight of the nuclear power plant, while local personnel are trained and involved in the process. Such technologies should remain under state ownership, at least in our region, although there is the example of Slovakia, where a nuclear reactor is privately owned," he explains.

A nuclear power plant employs fewer people than coal-fired power plants, primarily due to widespread automation and the highly educated workforce required, even during uranium mining. Only about 5 percent of the workforce are nuclear engineers, with the rest comprising mechanical, civil, and chemical engineers, among other specialists.

"To achieve the level of expertise we had decades ago when we had reliable technical personnel, quality schools, and serious engineers; we must commit to this path. Either we will rebuild our technical expertise, where we previously excelled, or shift towards tertiary services and become a tourism-oriented country, which requires a completely different type of workforce," Dimović explains further.

A Roadmap for Developing Nuclear Engineers

If Serbia opts to prioritize technical expertise, it will require proactive measures to guide young people towards this field. PhD Dimović outlines the process as follows:

Nuclear engineers should begin their education during undergraduate studies in the faculties of electrical

Photograph: Pixabay/Dirk Rabe

engineering or natural sciences, where they learn the fundamental principles shared by technical disciplines. Since Serbia does not have a dedicated nuclear faculty, the ideal approach would be to identify talented students and direct them to specialized master's programs abroad. The state would fund their education to meet the needs of domestic nuclear engineering.

PhD Dimović, who has spent time at the SCK CEN Nuclear Research Centre in Belgium, Europe's largest nuclear center, considers this experience a benchmark. Over one year, students must complete between 12 and 15 subjects, preparing for a career in nuclear engineering.

In Serbia's context, beyond allocating budgetary funds for education, the state should ensure that engineers remain in the country after additional training by offering competitive salaries to prevent them from moving to the better-paying IT sector. Given the global demand for their expertise, aligning the salaries of highly specialized professionals with global standards is crucial to discourage emigration. The formation of such a team should run parallel to the planning of nuclear power plant construction.

Given its considerable potential for young engineering talent, Serbia could develop the necessary skilled workforce within three to five years by selecting candidates promptly, funding studies, and paying appropriate salaries.

Photograph: Unsplash/Jonas Denil

Nuclear Waste: The Primary Concern

The generation of radioactive waste remains the main obstacle to implementing nuclear energy. However, it can be safely stored after appropriate physical and chemical treatment. A permanent waste disposal site should be the subject of a scientific and technical study, where the Vinča Institute of Nuclear Sciences would play a pivotal role in decision-making.

As PhD Dimović explains, Serbia generates small quantities of waste. An ideal but ambitious solution could be a regional nuclear disposal facility encompassing nuclear waste from all power plants in the region. The safest methods involve storing waste in deep geological formations or abandoned mines. Interestingly, medical and agricultural waste globally emits far more radioactivity than nuclear waste.

"A nuclear power plant is an exceptionally complex project that requires the highest standards of design and construction, taking into account extreme risks such as terrorist attacks or internal sabotage, largely due to the stigma surrounding these technologies. Serbia has the largest multidisciplinary institute in the Balkans, which should be a strategic partner to the state for the nuclear program and broader scientific and research development. Owning a nuclear facility drastically alters the perception and position of a state, making it a more competitive and serious player on the global market," PhD Dimović states.

In countries with poor air quality, heavy reliance on coal, energy deficits, and dependence on fluctuating energy prices, nuclear energy offers a pathway to a healthier environment, greater energy independence, and enhanced state sovereignty.

Prepared by Milica Vučković

INVESTMENTS IN GREEN ENERGY: A STEP TOWARDS SUSTAINABLE BUSINESS AND RESPONSIBILITY

Renewable energy sources play an increasingly important role in today's energy mix. Also, the legal regulations of certain countries have been significantly tightened when it comes to fossil fuels and their environmental impact. That is why energy transition and green energy are increasingly important.

Companies that recognize the importance of renewable energy sources and actively invest in them not only support the fight against climate change but also create competitive advantages in the market. At the same time, investing in green energy contributes to the creation of a healthier and more sustainable environment but also stimulates the development of new technologies and innovations. Through these activities, companies not only improve their business but also significantly contribute to the preservation of natural resources for future generations. Their strategic action confirms that sustainability and economic

Photographs: NIS

development are inseparable, and the green agenda is the key to the survival and progress of the entire society.

Environmentally oriented business initiatives

That is why a large number of energy companies implement significant projects in the field of renewable energy sources. This trend is also followed by domestic companies. One example is the company NIS, which, in the last two years, implemented a project to build solar power plants at its refueling stations and other facilities, such as the Jazak water factory.

NIS has specifically invested in the energy transition, focusing on building capacities for producing electricity from renewable sources. The project was primarily implemented at refueling stations, so solar panels were installed at as many as 45 refueling stations by July 2023. These power plants produce about 1,600 MWh annually, which reduces the company's electricity costs by about 230,000 euros. At the same time, carbon dioxide emissions are significantly reduced at these facilities—by as much as 1,700 tons per year.

Jazak drinking water production plant

According to NIS, the development of innovative solutions that contribute to environmental protection and, at the same time, increase energy efficiency in the field of energy saving are one of the basic elements of the company's business strategy.

Since 2009, the company has invested more than 900 million euros in environmental projects and business initiatives that indirectly improve the environmental picture in our country, of which more than 130 million euros are directed to environmental initiatives. In 2023 alone, 801.8 million dinars were invested in implementing ecological projects. Thanks to significant investments in the implementation of the green agenda through business processes, NIS reduced direct carbon dioxide emissions by 6 percent last year. In addition, NIS continuously improves equipment and facilities with the aim of optimizing energy consumption and reducing the emission of harmful gases, the key causes of climate change. Thus, in the Pančevo Oil Refinery, a deep processing plant was put into operation, with the operation of which the production of fuel oil with a high sulfur content was abolished, which led to a reduction of sulfur dioxide (SO_2) emissions by as much as 98.8 percent.

The company announces that projects for the construction of new solar power plants have been approved for next year and that in 2025, power plants will be built at four more locations in Serbia, with a total capacity of 10 MW. With this expansion, the annual electricity production from solar power plants owned by NIS will increase to about 23,300 MWh per year, equivalent to the average consumption of 5,500 households. Total investments in the construction of solar power plants in the company from 2022 to 2025 amount to 14.5 million euros.

Together for green energy

NIS recognized the need to support the energy development of 13 partner cities and municipalities in which it operates and encourage them to use renewable energy sources and create an environmentally responsible environment. With this goal in mind, NIS focused this year's cycle of the social responsibility program "Common Cause Community" on supporting 40 selected projects and allocated funds in the amount of 144.5 million dinars for constructing solar power plants on buildings of public importance. With this, NIS became the first company in Serbia to announce and independently finance competition for projects that use the potential of the Sun's energy to produce green energy. In this way, in accordance with the slogan of this year's cycle, "Together for green energy", the company actively participates in the promotion of green energy and contributes to building a more sustainable and better future for all.

Companies investing in green energy show that they truly understand the importance of sustainable development, creating long-term value for their shareholders and the entire community. Among them is the NIS Company, which, for the 14th year in a row, publishes a verified Report on Sustainable Development and transparently presents its business results and successes, how they are achieved, as well as efforts to strengthen the community in which it operates. The integration of CSR and sustainable development within the business strategy is ethically correct and represents an economically profitable approach. Companies that operate in accordance with this synergy become leaders in creating positive social change, thus ensuring long-term growth and prosperity, not only for themselves but also for the wider community and our planet.

NIS

CARBON MANAGEMENT: COST OR INVESTMENT IN A SUSTAINABLE BUSINESS?

Climate change is no longer a distant threat but a daily reality shaping the business environment. From extreme weather events to shifting consumer and investor expectations, the impacts of climate change affect everyone—from small businesses to large corporations. In this context, carbon management stands out as an essential tool for responsible business operations and an opportunity for innovation, growth, and resilience. Yet, a key question often arises: what does carbon management actually entail? Is it just another bureaucratic burden, or is it the key to a sustainable future?

The European Union, a global leader in combating climate change, has introduced a series of regulations requiring companies to manage emissions responsibly. Carbon management involves systematically measuring, reducing, and neutralizing carbon dioxide and other greenhouse gas emissions that contribute to global warming.

In the EU, this concept is becoming an increasingly significant requirement for businesses, particularly through regulations mandating emissions tracking, alignment with sustainability goals, and transparent reporting. At the heart of this approach lies a powerful idea: what can be measured can be managed with precision and shaped with vision.

Photograph: IPixabay/CapeCom

In 1992, at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted, laying the foundation for a global fight against climate challenges. Five years later, the Kyoto Protocol introduced the first legally binding targets for emission reductions. In 2005, the European Union launched the European Emissions Trading System (ETS), whose 'cap-and-trade' principle created new investment opportunities in clean technologies and innovations. The Paris Agreement of 2015 marked the pinnacle of these efforts, setting the goal of limiting global warming to 1.5 degrees Celsius. This historic milestone now defines business strategies, as climate responsibility is no longer just an ecological obligation but a key factor in competitiveness and long-term sustainability.

In addition to the ETS, the European Green Deal, introduced in 2019, serves as the foundation for transitioning to a low-carbon economy. The goals are ambitious: reducing emissions by at least 55 percent by 2030 and achieving climate neutrality by the middle of the 21st century. The Carbon Border Adjustment Mechanism (CBAM) was introduced to support these objectives. It prevents carbon leakage by imposing tariffs on emissions embedded in imported products from countries with weaker environmental standards.

The Carbon Border Adjustment Mechanism (CBAM), which came into effect on October 1, 2023, sets new standards for fair competition in the European market. Currently focused on emissions reporting for key industries such as cement, steel, aluminum, fertilizers, and electricity, CBAM will introduce a requirement to pay taxes based on reported emissions starting in 2026. This mechanism not only levels the playing field for producers but also pressures non-EU countries to improve their environmental standards. The essence of successfully implementing CBAM lies in precise greenhouse gas (GHG) accounting, which meticulously maps every step of the value chain—from production to transportation. For companies worldwide, this is not just a regulatory challenge but also an opportunity for innovation that redefines sustainable business practices.

The essence of successfully implementing CBAM lies in the precise calculation of greenhouse gas emissions (GHG accounting), which meticulously maps every step of the value chain—from production to transportation

The European Union's Corporate Sustainability Reporting Directive (CSRD) also marks a significant shift in how companies approach responsible business. This regulation will take effect for some companies as early as fiscal year 2024. CSRD applies to approximately 50,000 enterprises operating on stock exchanges or with significant activities in the EU. It introduces the most

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As a mentor, she has guided the completion of over 40 bachelor's and master's theses and one doctoral dissertation while currently supervising four postgraduate candidates. In addition to her academic work, PhD Petrović is a respected expert in standardization and sustainable development. For 15 years, she has been a lead auditor for ISO 14001, ISO 45001, ISO 9001, and CSR standards at international certification bodies. She also collaborates with the Accreditation Body of Serbia as a technical assessor for ISO 17025. Furthermore, she conducts professional training for the industry in areas such as quality management systems, environmental protection, occupational health and safety, ESG reporting, and regulatory compliance.

Photograph: courtesy of Maja Petrović

stringent standards for transparent sustainability reporting, emphasizing not only regulatory compliance but also strategic thinking on how sustainability can become a key source of value in an increasingly green global business environment.

For many, however, carbon management remains a vague concept, often seen as an additional cost rather than an opportunity. What does it truly entail, who is required to adopt it, and how can it benefit everyone?

For many companies, particularly small and medium-sized enterprises (SMEs), the key question is not just about compliance with new regulations but also how they will redefine their operations. While large companies with more than 500 employees were already required to report their emissions under the Non-Financial Reporting Directive, the new sustainability directive significantly raised the bar. Starting in 2024, the directive applies to companies with over 250 employees, and by 2026, it will include SMEs with publicly traded shares, significantly impacting the broader business ecosystem.

However, these changes are not merely a regulatory challenge—they represent a strategic opportunity to enhance operational efficiency. Companies that recognize the value of accurate emissions measurement often discover cost optimization opportunities, whether through energy-efficient processes, transitioning to renewable energy sources, or reducing industrial waste. For instance, implementing solar systems or adopting circular business models not only reduces operational costs but also ensures long-term business resilience.

Beyond financial benefits, a proactive approach to sustainability significantly strengthens the brand image and corporate reputation. Today's consumers demand greater transparency and increasingly choose companies that demonstrate environmental responsibility. Similarly, investors increasingly favor businesses with well-defined sustainability strategies, seeing them more resilient to market risks and regulatory changes.

The European Union, as a global leader in combating climate change, has introduced a series of regulations requiring companies to manage emissions responsibly

In a world where sustainability is becoming the foundation of competitiveness, SMEs that respond proactively to these challenges can position themselves as leaders in the new sustainable economy.

What Exactly is Carbon Management?

Carbon management is not just a technical process—it is a strategic framework that enables companies to identify, control, and reduce their environmental impact. At the core of this approach lies the measurement, reduction, and neutralization of greenhouse gas emissions, both within the company and across the entire supply chain. It all begins with precise emissions calculations, known as a carbon inventory, which help companies pinpoint major emission sources and define specific reduction targets.

This process becomes a turning point for many companies as they discover where most of the energy is being wasted and how processes can

be optimized. For instance, transitioning to renewable energy sources or adopting energy-efficient technologies not only reduces emissions but also often leads to significant long-term cost savings. Implementing circular business models further contributes to resource optimization and waste reduction, ensuring long-term sustainability.

The carbon management process starts with emissions measurement through a carbon inventory. This enables companies to identify key sources of emissions and set realistic reduction goals. The next step focuses on implementing solutions, such as transitioning to renewable energy, adopting circular business models, and optimizing transportation.

A crucial step is involving employees and the community in the process. Training, education, and transparent communication help foster a culture of responsibility and sustainability.

The Role of Carbon Management in Mitigating Business Risks

Climate change also increases business risks. Extreme weather events, supply chain disruptions, and rising resource costs are just some of the challenges companies face. Carbon management helps identify and mitigate these risks, making businesses more resilient to change.

Of course, challenges exist. One major challenge is avoiding greenwashing—the practice of presenting a false image of environmental responsibility. Serious carbon management requires commitment, transparency, and independent data verification.

Carbon Management: A Cost or an Investment?

At its core, carbon management is not an additional cost. It is an investment in the future—not just for companies but for society as a whole. As the world continues to face the challenges of climate change, companies that recognize the opportunities in sustainability will set the standards for success in the 21st century.

The Future of Carbon Management

Technologies for reducing emissions and improving energy efficiency are advancing rapidly. Carbon capture systems, blockchain for emissions tracking, and artificial intelligence for data analysis are just some of the innovations shaping the future of carbon management.

However, the essence remains the same—it all begins with measurement, progresses to reduction, and requires collaboration among all stakeholders, from companies to consumers.

Carbon Management as an Opportunity for New Professions

Implementing carbon management not only transforms how companies operate but also opens the door to a new dimension of the job market—green jobs. As the world transitions to a sustainable economy, an increasing number of companies and organizations are seeking experts who can help them understand, implement, and optimize strategies for reducing greenhouse gas emissions.

Green jobs encompass a wide range of professions, from renewable energy experts to environmental protection engineers and sustainable development specialists. According to the European Commission, the green transition could create more than one million new jobs in the EU by 2030. These jobs are not limited to traditional environmental sectors but also extend to industries such as construction, IT, and transportation, which increasingly integrate sustainability principles.

Ultimately, the key question remains: will we view carbon management as a burden or an opportunity to shape a better, sustainable future? As the saying goes, "What we do today shapes the world we will live in tomorrow."

Photographs: Pixabay/Gerd Altmann

FROZEN DANGER – THAWING PERMAFROST RELEASES POTENTIALLY HIGHLY DANGEROUS MICROBES

Global warming is causing numerous negative consequences for ecosystems, particularly affecting icy regions in the Northern Hemisphere. While melting ice caps destroy natural habitats for biodiversity in these areas, the thawing of permafrost poses a threat to living beings worldwide by releasing ancient microorganisms and gases that could have global repercussions.

Permafrost is a layer of soil that has remained frozen for more than two years, often for thousands of years. This layer contains numerous microorganisms, including bacteria and viruses, locked away and inactive. However, due to climate change and the thawing of permafrost, these microorganisms are being released and reactivated, potentially posing a significant risk to human health and other living beings.

The United Nations Environment Programme (UNEP) highlighted a case from 2016 when a bacterium causing anthrax—a highly dangerous disease—was released. That year, over 2,500 reindeer perished on the Yamal Peninsula in Siberia, and the infection spread to humans through the affected animals, resulting in one death and numerous illnesses.

Scientists warn that the Arctic is warming four times faster than the rest of the planet, which could lead to more frequent releases of deadly microbes. Data from a study reported by UNEP shows that approximately four trillion microbes are released each year due to permafrost

thawing. To better grasp the magnitude of this number, it can be explained as the number four followed by 21 zeros, or 4,000,000,000,000,000,000,000.

Adding to the concern, maritime traffic, mining, and other industries are increasingly expanding in these regions, bringing humans closer to potential dangers and making the spread of diseases easier.

Permafrost is also a massive storage of approximately 1,500 gigatons of carbon dioxide—almost twice the amount currently present in the atmosphere. Its thawing releases carbon dioxide and methane emissions, further intensifying the greenhouse effect.

This highlights the urgent global need to address greenhouse gas emissions to avoid potentially catastrophic consequences for both the climate and human health.

Additionally, scientists now predict that the so-called first “ice-free day” in the Arctic could occur as early as 2027, earlier than the previously anticipated 2030. An ice-free day is when the sea ice extent drops below one million square kilometers. This alarming forecast signals significant and irreversible climate changes. Such changes threaten Arctic wildlife, including polar bears, already at risk. Furthermore, ice plays a crucial role in reflecting sunlight; with its reduction, the ocean absorbs more heat.

Reports indicate that in September 2024, the minimum sea ice extent for the year was recorded at 4.28 million square kilometers, marking a substantial decrease compared to previous decades.

Katarina Vuinac

Photograph: Unsplash/Annie Spratt

GERMANY SETS NEW RECORD – 62.7 PERCENT OF ELECTRICITY FROM RENEWABLES IN 2024

According to an analysis by Germany's Fraunhofer Institute for Solar Energy Systems ISE, the country achieved a new milestone in 2024, with renewable energy sources accounting for 62.7 percent of net public electricity generation.

Last year was particularly favorable for the development of solar energy. Newly installed solar capacities continued to exceed the federal government's targets, with solar energy production reaching a new record of 72.2 terawatt hours (TWh). This represents an increase of approximately 10.8 TWh, or 18 percent, compared to the previous year, with solar energy accounting for 14 percent of net public electricity generation.

With 8.7 TWh, July 2024 marked the month with the highest solar energy production. Once again, solar expansion surpassed government targets, with 13.3 gigawatts (GW) installed by November 2024, exceeding the planned 13 GW. Although full energy data for 2024 is not yet available, the institute estimates that new solar capacity added in the past year amounted to 15.9 GW.

In 2024, wind energy remained Germany's most significant source of electricity, generating 136.4 TWh and accounting for 33 percent of net public electricity production. However, onshore wind production decreased to 110.7 TWh (compared to 115.3 TWh in 2023), while offshore wind generation slightly exceeded the previous year's level at 25.7 TWh.

The expansion of new wind energy capacities fell short of expectations in 2024. Onshore installations amounted to just 2.44 GW by November 2024, compared to the planned 7 GW. Offshore installations performed slightly better than in previous years but remained far below expectations. Germany added 0.7 GW of offshore capacity in 2024, while plans called for 5–7 GW annually, aiming for 30 GW by 2030.

Milena Maglovski

THE BATTLE FOR DOMINANCE IN GREENLAND – ARE ENERGY RESOURCES AND THE ARCTIC PATH SHAPING THE ISSUE?

The world's largest island, Greenland, has recently been gaining increased attention due to political statements, especially those originating from the United States. While Greenland is a self-governing autonomous territory, it remains part of the Kingdom of Denmark, which means that the Danish government retains authority over major governance and international relations.

The Arctic itself is not owned by any single nation, but several countries—the United States (via Alaska), Canada, Russia, Norway, Denmark (via Greenland), and Iceland—can, under United Nations rules, claim to expand their exclusive economic zones. According to UNCLOS (the United Nations Convention on the Law of the Sea of 1982), each state has an exclusive economic zone (EEZ) extending up to 200 nautical miles (approximately 370 kilometers) from its coasts, where it has exclusive rights to the sea's resources and can expand its continental shelf up to 350 nautical miles if a geological connection to the mainland is proven. The convention also defines territorial waters up to 12 nautical miles and establishes mechanisms for resolving disputes. However, the United States has yet to ratify this convention, which creates additional legal and political tensions.

Russia, on the other hand, is actively working to prove that the seabed of the Arctic Ocean is an extension of its Siberian continental shelf in order to secure additional rights to exploration under these rules. Norway, Denmark, and Canada are also developing their own strategies to define rights to Arctic space. The result of such competition is a complex legal and geopolitical situation, where major players are vying for control over resources and maritime routes.

Energy Portal

Photographs: (left) Unsplash/Karsten Würth; (right) Unsplash/Visit Greenland

VUJOVIĆ: SUBSIDIES FOR ELECTRIC VEHICLES TO CONTINUE IN 2025

The Ministry of Environmental Protection will continue to subsidize the purchase of electric vehicles in 2025, marking the sixth consecutive year of this initiative as part of efforts to improve air quality.

Irena Vujović, Minister of Environmental Protection, highlighted that over the past five years, around 2,800 environmentally friendly vehicles have been purchased with the support of the Ministry.

According to her, subsidizing electric vehicles is a crucial measure for improving air quality, and its implementation will continue this year as well.

„The current plan is for the Government of Serbia to adopt the Regulation on the Conditions and Procedure for Subsidized Purchase of New Electric Vehicles for 2025 by the end of January. This will allow individuals and legal entities to submit applications and qualify for this form of state support starting in February. Last year, we allocated 170 million dinars for this purpose, but due to the large number of valid applications, we secured additional funds and spent a total of 205 million dinars. If interest exceeds the allocated amount again this year, we will strive to provide additional funds", said Vujović.

She added that the subsidy amounts will depend on the type of electric vehicle and will range from 250 to 5,000 euros. State subsidies will also be available to future buyers of the electric „Panda" car produced in the Kragujevac factory, with a subsidy of 5,000 euros planned for this passenger vehicle.

After the adoption of the 2025 Regulation, which will specify the amounts and procedures for applying for subsidies this year, the Ministry of Environmental Protection's website will publish a form with details of the required documentation. The deadline for submitting applications will, as in previous years, be October 31, to ensure all applications are processed within the current year, the Ministry stated in its announcement.

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NORWAY: 9 OUT OF 10 CARS SOLD IN 2024 WERE ELECTRIC

Norway continued to lead the transition to electric vehicles in 2024, achieving an impressive 89 percent share of electric cars among all newly registered passenger vehicles.

According to the Norwegian Road Information Authority (OFV), out of a total of 128,691 newly registered passenger cars, 114,400 were electric vehicles. This represents an increase of 1.4 percent compared to 2023, when the share of electric vehicles was 82.4 percent.

OFV Director Øyvind Solberg Thorsen emphasized that this achievement sends a clear message to the government about the importance of maintaining incentives for purchasing electric cars.

"Many new and exciting brands and car models are arriving in Norway in 2025. If incentives are upheld, new car sales could gain additional momentum, helping us achieve the 2025 target where all new passenger cars should be zero-emission vehicles," Thorsen said.

During certain months of 2024, the share of electric vehicles surpassed 90 percent. September recorded a record-high 96.4 percent share of electric cars among new registrations. In December, 13,652 new cars were registered, a 12.1 percent increase compared to December 2023, with 85.5 percent of them being electric.

Tesla maintained its market-leading position with an 18.9 percent share, followed by Volkswagen, Toyota, Volvo, and BMW. Chinese brands, though still establishing themselves in the market, collectively captured a 10 percent share.

"Despite the arrival of many new brands and models, most customers remain loyal to the brands they know. It will be exciting to see how Chinese automakers expand their influence in 2025," Thorsen added.

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REVOLUTION FROM ABU DHABI: WORLD'S LARGEST SOLAR-BATTERY PROJECT TO PRODUCE ENERGY 24/7

Solar energy is emerging as a critical component in the planet's transition toward a more sustainable future. However, one of the biggest challenges of this renewable energy source is its inconsistency in providing continuous energy supply. For this reason, attention is shifting to finding more efficient solutions for storing generated energy.

Abu Dhabi has announced one of the most significant projects aimed at addressing this challenge. With a capacity of 5.2 GW of solar panels and 19 GW of battery storage, it will be the largest combined system in the world. In addition to providing significant energy capacities, the system will ensure that solar energy is continuously available 24/7, including nighttime when sunlight is unavailable to the solar plant.

This project plays a crucial role in achieving the UAE's strategy for net-zero emissions by 2050, further solidifying the nation's position as a global leader in clean energy. Through innovative technologies, such as the world's largest energy storage system, the UAE is setting new standards for sustainable energy transition.

The project, developed by Abu Dhabi Future Energy Company – Masdar and Emirates Water and Electricity Company (EWEC), will deliver 1 GW of power as a base daily production from renewable sources. Its realization will create over 10,000 new jobs.

Preferred suppliers for photovoltaic modules and energy storage systems have also been announced. Both photovoltaic module suppliers utilize the latest TopCon technology, which ensures maximum efficiency and long-term performance with optimized parameters for a production lifespan of 30 years. Additionally, the chosen supplier for battery systems employs advanced TENER technology, providing high safety, long service life, and efficiency, enabling stable and reliable operation throughout the project's lifecycle.

Katarina Vuinac

CZECHIA UPDATES NATIONAL CLIMATE AND ENERGY PLAN: FOCUS ON RENEWABLE ENERGY AND NUCLEAR POWER

At the end of 2024, the Government of the Czech Republic approved the update of the National Climate and Energy Plan, a joint initiative developed by the Ministry of Industry and Trade and the Ministry of the Environment. The updated plan focuses on potential development scenarios for the Czech energy sector until 2030, emphasizing compliance with European targets while ensuring energy supply security.

Following government approval, the updated plan envisions a significant increase in capacities from renewable energy sources and nuclear energy to meet climate targets in the most cost-effective way. The strategy highlights the role of renewable energy sources and nuclear power, while gas remains an important part of the energy plan, as stated on the Ministry of Industry and Trade's website.

The plan outlines that the share of RES in electricity production will grow from 16.5 percent in 2023 to 28 percent by 2030 and further to 46 percent by 2050. It is projected that nuclear energy will account for approximately 44 percent of electricity production by 2030, with new reactors expected to increase this share to 68 percent by 2040. Additionally, 28 percent of heat energy in the Czech Republic currently comes from renewable sources, with plans to increase this share to 40 percent by 2030 and 74 percent by 2050.

The plan details the role of natural gas as a transitional energy source, which, due to its stability and ability to provide quick production, complements the less predictable output from renewable sources. However, it is anticipated that gas will gradually phase out from the energy mix, replaced by renewable and low-emission gases, including hydrogen.

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GLOBAL STRATEGIST IN ENERGY CHALLENGES

In today's world, as we face challenges such as climate change, global pollution, and the necessary energy transition driven by a network of intertwined factors, SolarEdge stands out as a leader in renewable energy. With the growing demand for electricity and the increasing number of electric devices and vehicles on the roads, it is becoming increasingly challenging to track consumption and identify opportunities for savings. SolarEdge offers a range of solutions to address this situation.

With more than 4.1 million monitored systems worldwide, SolarEdge has become a monumental player in energy consumption optimization and system safety, reducing risks of fires and other high-voltage incidents. Their DC-Optimized technology redefines the future of the energy sector, setting new standards for efficient solar energy production and management.

SolarEdge systems enable an annual reduction of 40 million tons of greenhouse gas emissions, equivalent to the yearly CO_2 emissions of some of the world's most prominent cities

Among its many achievements, SolarEdge enables homeowners to generate solar energy and store and manage it in the most efficient ways, thanks to an operating system that creates personalized energy programs based on budgets, energy lifestyles, appliances, and other data. With the help of a suite of applications, homeowners can monitor all aspects of their systems. With over 3.4 million installed residential solar systems, the company demonstrates the practical application of its innovations.

The company's global presence is evident through its operations in more than 140 countries, with over 4,200 employees and 55 GW of installed equipment. SolarEdge systems enable an annual reduction of 40 million tons of greenhouse gas emissions, equivalent to the yearly CO_2 emissions of some of the world's most prominent cities.

Furthermore, the company upholds numerous values, with over 165 women in leadership roles. SolarEdge

Photograph: SolarEdge

showcases its commitment to social responsibility and sustainable resource management by recycling 83 percent of its waste.

Thus, SolarEdge is not only a solar industry company but also a key player in the global energy revolution, as our interview with Jernej Blaj, Sales Manager for the Western Balkans, confirmed.

Q: You offer a wide range of energy management solutions and services. What would you say if you had to describe what SolarEdge does to a new client in a few sentences?

A: SolarEdge provides sophisticated and comprehensive energy management solutions tailored to a wide range of needs, meeting the growing demands of households, businesses, and energy systems. At the core of our offering is maximizing energy production, increasing efficiency, ensuring safety, and enhancing innovative energy management. For example, our power optimizers improve solar panel efficiency by minimizing shading or mismatch issues, ensuring each panel reaches its full potential.

Safety is a crucial aspect of our solutions. Innovative technologies like SafeDC™ automatically reduce system voltage during emergencies or maintenance to protect people and property, while Sense Connect detects potential electrical faults before they escalate. These technologies underline our commitment to safety and reliability, offering peace of mind to our customers. In short, SolarEdge not only provides solar energy solutions but empowers its clients with powerful tools for more efficient and safer energy production, management, and utilization.

Q: How many applications do you currently offer, and what can users achieve with them? What is the user experience like with these apps?

A: SolarEdge offers a suite of applications designed to meet different user needs, from installation to ongoing energy management.

- **SolarEdge ONE**: A comprehensive energy management platform that allows users to control energy production, storage, and consumption. It is beneficial for optimizing energy use and ensuring cost efficiency.
- **SolarEdge GO**: This app, focused on installers, streamlines the installation process, making system commissioning and maintenance faster and more efficient.
- **mySolarEdge**: A user-friendly app for homeowners that provides real-time insights into their solar energy system, including production, consumption, and storage status.
- **SolarEdge Designer**: A powerful tool for project planners and designers that helps create detailed and optimized solar system layouts to maximize performance.

These applications are widely praised for their intuitive user experience and practical insights. From installers to end-users, SolarEdge apps transform how solar energy systems are designed, implemented, and managed.

Q: Energy storage and battery systems have become one of the main topics today. How are you progressing in this field? Recently, the launch of the SolarEdge Commercial Storage System - CSS-OD was announced. What does this represent, and how can it impact commercial energy strategies?

Jernej Blaj
Sales Manager for the Western Balkans

A: Energy storage is central to SolarEdge's mission of enabling smarter energy management. Our battery systems allow users to store excess solar energy for later use, ensuring greater consumption and resilience. But it's not just about storing energy but its intelligent use. For instance, SolarEdge ONE helps businesses and homeowners store energy when it's cheap and sells it back to the grid when prices are high, maximizing financial benefits. The recent launch of the SolarEdge Commercial Storage System (CSS-OD) is a significant step forward in this field. It is designed for commercial applications, offering large-capacity storage that can be tailored to various industries' needs. This innovation empowers businesses with greater control over their energy strategies by reducing peak demand charges, improving energy independence, or optimizing energy usage during fluctuating market prices. In essence, SolarEdge's innovations in energy storage are shaping a more sustainable and economically efficient energy landscape.

Interview by Milica Vučković

Photographs: SolarEdge; (Blaj) courtesy of Jernej Blaj

NEW BUSINESS PERSPECTIVES – INVESTING IN SOLAR ENERGY

Influenced by global events, concerns about inflation, and energy dilemmas, economic actors are looking for sensible investment avenues. The implementation of solar systems is increasingly becoming a chosen investment path, which is not only a step towards energy independence but also an important segment of the economic strategy of those economic actors. Such an understanding is becoming increasingly accepted in Serbia, where solar panels are gradually gaining importance as an investment opportunity that promises both environmental advantage and satisfaction and a profitable calculation. It's part of the story that makes solar energy an increasingly attractive option for those looking for long-term savings and a good energy solution, given that solar panels can significantly reduce electricity bills.

As companies increasingly recognize the value of solar investments that contribute to reducing dependence on traditional energy sources, one of CEEFOR's projects confirmed the thesis that interest is growing in our country as well.

The project in question, for which the design and technical documentation have been entrusted to CEEFOR engineers, is the BAT Vranje solar power plant, which will be located on the roofs of the factory buildings, with a planned, approved capacity of 910 kW. The total area of the solar power plant will be approximately 4,822.9 square meters, an area comparable to nearly four Olympic swimming pools. The plant will be equipped with 1,800 photovoltaic panels manufactured by Luxor Solar, while each panel will have an individual power of 545 Wp.

A total of 46 Fronius inverters with two different power levels will

Photographs: CEEFOR

The implementation of solar systems is increasingly becoming a chosen investment path, which is not only a step towards energy independence but also an important segment of the economic strategy of those economic actors

be used to convert the produced DC electricity into alternating current: 29 inverters with an individual power of 20 kW and a total nominal power of 580 kW, and 17 inverters with an individual power of 15 kW and a total power of 255 kW.

Production Assessment

The technical aspects of the project have been carefully planned to deliver the most optimal solution. The design of the solar power plant, an area in which CEEFOR has been demonstrating its ability to earn clients' trust for years, also involves assessing future monthly and annual electricity production with maximum utilization of available resources and conditions and minimization of operational costs.

The expected annual production for this particular project is 1,181,092.4 kWh, which should significantly reduce grid electricity consumption.

As is already known, electricity production is not constant throughout the year but fluctuates, which is characteristic of this type of renewable energy source. As is the case in our climate, considerably higher production is expected during the summer months, while during the winter months, the production is naturally lower due to the shorter days and fewer hours of sunshine in general. For example, the peak of production was estimated for June, when it should exceed 150,000 kWh, while the lowest production is expected in December, estimated to be just above 34,000 kWh.

According to the consumer-producer principle, the energy produced will be used for internal consumption and placed in the distribution network.

Since being granted legal status, the prosumer model, or a consumer who simultaneously produces electricity, has proven to be a good incentive for the introduction of solar systems in Serbia, both for individuals and for companies. This legal change has enabled companies to gain prosumer status, which has become a significant issue due to rising electricity prices, advancements in the solar industry, and climate goals on the horizon.

On the other hand, CEEFOR has been recognized among many who have seen the value of these investments and have shown their willingness to harness the power of the sun in the best way – as a reliable partner on this journey.

Prepared by Milica Vučković

LEGAL FRAMEWORK FOR ESG ISSUES IN SERBIA

In recent years, issues related to the environment, society, and corporate governance have gained increasing importance in both the global and domestic business landscapes. Serbia has laws regulating these areas, but questions arise as to how aligned they are with European standards and how effectively they are applied in practice. While there have been positive developments in the implementation of ESG (Environmental, Social, and Governance) principles, Serbian businesses and lawmakers still face numerous challenges. We discussed this important topic with Milica Pešterić, partner at the law firm Drašković Popović & Partners.

Companies that fail to meet the directive's targets must submit a report explaining the reasons and the measures being taken to address the shortfall

Q: How would you assess the current legal framework regarding ESG issues in Serbia?

A: In Serbia, there are legal regulations covering the environment, labor relations, occupational safety and health, respect for human rights, personal data protection and privacy, corporate governance, and almost everything else that constitutes ESG. Additionally, there are provisions on non-financial reporting within accounting and auditing laws. However, the extensive European legislation, which is evolving dynamically in this area, has not been adequately transposed, nor have state policies and strategies been devised to determine how domestic companies will navigate aligning their operations with ESG requirements, whether they are directly obligated or affected through value (supply) chains.

The primary initiative still lies with the companies themselves. However, it is easier for those who are part of international groups, as they can transfer policies and strategies from the group level and implement them more quickly locally.

Q: What changes would you like to see in the future regarding ESG principles, both in legislation and business practices?

A: There is a lot, but I would highlight two key points. First, I hope the Women on Board Directive will be transposed into Serbian legislation through amendments to the Law on Business Companies. This would be accompanied by the implementation of leadership development programs for women in decision-making po-

Photograph: Pixabay/VBlock

In Serbia, there are legal regulations covering the environment, labor relations, occupational safety and health, respect for human rights, personal data protection and privacy, corporate governance, and almost everything else that constitutes ESG

Milica Pešterić
Partner at the law firm Drašković Popović & Partners.
D2P LAW

sitions modeled after those of other Western Balkan countries. The primary goal of such programs is to strengthen and promote women's leadership potential for participation on the boards of large corporations and prepare the business environment for the implementation of this directive.

The directive aims to improve gender balance among company directors and implement measures similar to those in force in the EU. Large companies in the EU are required to achieve at least 40 percent representation of non-executive board members or 33 percent of all directors from the underrepresented gender (i.e., women) by June 30, 2026.

The selection of candidates must be based on clear criteria and a comparative analysis of their qualifications. The criteria must be clear, gender-neutral, and unambiguous. Candidates are assessed based on their individual qualifications and merits, regardless of gender. Quality, competence, and professional capability are the key factors in the selection process.

Companies that fail to meet the directive's targets must submit a report explaining their reasons and the measures they are taking to address the shortfall. This directive represents a significant step toward achieving gender equality in corporate governance across the EU, fostering transparency, objectivity, and meritocracy in board member selection.

The second important point is the successful implementation of ESG criteria in the small and medium-sized enterprise (SME) sector, which I currently see as a significant challenge. To remain competitive within the value (supply) chain, SMEs will require comprehensive institutional support on this journey.

Q: What are some of the positive effects you've observed in companies that have implemented ESG standards?
A: I would highlight the understanding of ESG compliance as an opportunity, a chance, and a benefit rather than an imposed obligation. Primarily, this involves recognizing that ESG-compliant companies have access to various forms of green financing, creating opportunities for further business development. Beyond that, the business community has generally realized the importance of environmental protection, biodiversity, green energy, uncompromising respect for human and labor rights, and other ESG elements.

Q: What can you tell us about the ESG department at your law firm?
A: The law firm Drašković Popović & Partners provides comprehensive legal support in the process of implementing ESG into a company's internal infrastructure, respecting the multidisciplinary nature of this field. We launched this department because we recognized the need for businesses to transition to a circular business model—a demanding and challenging process that requires professional assistance.

Through continuous education, training, and collaboration, our team is competent to guide clients through the entire process and provide support at every stage.

We also strive to apply ESG principles in our operations because, to advise clients in this area, we must demonstrate, by example, the importance of adopting and implementing the proposed measures.

Lastly, I'd like to mention that our redesigned logo represents a new perspective that reflects the essence of our values—clarity, innovation, and accessibility. This refreshed design incorporates a simplified aesthetic and embodies our commitment to making the client experience easier and more intuitive. We aim to align the aesthetic aspects of our corporate identity with the services we provide to address the challenges of our times.

Interview by Milica Radičević

Photograph: courtesy of Milica Pešterić

A GUARDIAN OF THE ENVIRONMENT FROM LJUSINA

Unfortunately, natural resources are invaluable treasures that we often fail to appreciate. This is evident in the many illegal dumpsites and trash left behind by careless individuals. It's not uncommon to see riverbanks, meadows, and roadside areas covered with plastic bags and various types of waste, which not only mar the beauty of nature but also seriously pollute it. Many of these materials, such as plastic and metal, are difficult to decompose and remain in the environment for decades. However, despite the negative impacts of our bad habits, there are those who tirelessly work to preserve nature in a somewhat unconventional way.

In the small town of Ljusina, near Bosanska Krupa, lives Almir Dervišević, an environmental activist who has been dedicated to protecting his local environment for several years. In his free time, he collects waste and organizes cleanup campaigns, joined by his fellow townspeople.

"My interest in ecology began a few years ago when I noticed a lot of trash and waste around us, and no one was doing anything to address it. So, I decided to focus on cleaning forests, roads, villages, and the banks of the Una River," says Dervišević.

To date, he has covered kilometers of roads, collecting hundreds of trash bags, but this effort has never been a problem for him. His work has become well-recognized in the community, and others have started joining him.

"I began organizing waste collection campaigns, and when I organize them, five to eight volunteers usually join me. So far, I've had many successful campaigns. I usually clean on weekends, which takes about four to five hours. My good friend Razim Dervić helps me the most," Almir adds.

He points out that he most often finds cans, bottles, and other waste along roadsides. He hopes that people who throw trash out of their vehicles will begin to recognize the harm their actions cause and will

Photographs: Almir Dervišević

take more care in the future. Everything he collects is packed into large bags, which the local utility service then transports to the municipal landfill in Bosanska Krupa.

At the beginning of his efforts, people were surprised by his commitment, but over time, he gained the support of his fellow citizens. Although he has mainly focused on cleaning his immediate surroundings, Almir plans to expand his activities to other towns.

In addition to his environmental activities, Almir is also involved in humanitarian efforts

"I believe littering could be reduced if laws were stricter and those polluting nature were penalized. I think that people who pollute our beautiful nature lack self-respect because if they respected themselves, they wouldn't do what they do to nature. I fight against such behavior and always will. I would like stricter laws and penalties to reduce the amount of waste. I believe that's the only right way. Besides, we all need to be responsible and not litter. Personally, I would love to see every town organize similar actions so that we can all work together to preserve our beautiful nature," Dervišević emphasizes.

He is also one of the most active members of a citizens' group called Guardians of the Environment, which focuses on cleaning illegal dumpsites in the area. He organizes most of his campaigns through social media, inviting locals to join him and sharing the exact location where the cleanup will take place a few days in advance.

In addition to his environmental activities, Almir is also involved in humanitarian efforts. He helps elderly citizens with no one to assist them by mowing their lawns, maintaining the areas around their homes, and caring for their needs.

This young man is employed at Unsko-sanske šume, and his dedication to environmental protection led to his transfer to a specialized sector. For his volunteer work and active contribution to ecology and civil society, Almir received a commendation from the citizens of Mostar.

His example shows that an individual can make a big difference and that responsibility toward nature is key to preserving the environment. In Almir's fight for a cleaner world, every action, no matter how small, matters because only through joint efforts can we create a world where future generations will enjoy clean and healthy nature.

Despite the negative impact of our bad habits, there are those who tirelessly work to preserve nature, often in a somewhat unconventional way

Prepared by Jasna Dragojević

THE FUTURE OF SOLAR ENERGY IN THE BALKANS

Renewable energy sources are becoming the cornerstone of the global transition toward a more sustainable future, with companies like SolarSK playing a key role in this process. As a leader in the solar energy industry in Eastern Europe, SolarSK is at the forefront of developing innovative solutions tailored to the specific needs of local markets and the challenges of modern times.

We spoke with Yevgeny Yaremenko, the founder and CEO of SolarSK, about the company's key milestones, project management approach, adaptation to local markets, and long-term vision. He shared insights on how SolarSK remains committed to quality, innovation, and sustainability, even under challenging circumstances, and how it contributes to the energy transition in the Balkans and beyond.

Q: What key milestones would you highlight as turning points in the development of SolarSK, and how have they shaped your current business operations?

A: Since our establishment in 2012 as Solar Steelconstruction, we have consistently focused on delivering high-quality and reliable solutions in solar energy. Starting as a steel processing company, we quickly became a leader in Eastern Europe's renewable energy sector. Key milestones include expanding our portfolio to over 30 types of mounting systems, including ground-mounted systems, rooftop solutions, carport systems, agrivoltaics, and tracking systems. We have successfully delivered over 4 GW of systems across 30 countries.

Our transition to EPC and Light-EPC services enabled us to offer complete solutions, including project installation. Today, we operate across Scandinavia, the Baltics, Eastern Europe, and the Balkans, supported by a dedicated team of over 400 experts and 100 specialized machines. These milestones have positioned us as a reliable partner for renewable energy projects in diverse markets, including the Balkans.

Q: How does SolarSK ensure that its products and mounting systems meet strict European quality and safety standards, and how do certifications contribute to building client trust?

A: SolarSK is fully committed to maintaining the highest European quality and safety standards. Our processes and products are certified according to ISO 9001, ISO 14001, ISO 45001, EN 1090-1,4, and SA8000 standards. These certifications validate our dedication to quality, environmental responsibility, and workplace safety, providing clients with confidence in our commitment to excellence.

We continually invest in new technology, processes, and employee training to comply with stringent industry requirements and optimize processes. This approach has helped us build long-term trust with clients and partners across the Balkans and Europe, delivering reliable and sustainable solutions for renewable energy projects.

Q: Can you explain the process of managing solar projects, from design to construction and long-term maintenance, and how your warranties provide security for clients?

Photographs: SolarSK

A: Our EPC approach ensures seamless project execution, covering the entire lifecycle of solar installations — from initial design to construction, monitoring, and long-term maintenance. We work closely with clients during the design phase to tailor solutions to their specific needs. During construction, we prioritize time management, safety, and quality control. Post-construction, we offer comprehensive warranties and ongoing support to ensure the long-term reliability of the systems.

With over 500 MW of completed projects, including a 100 MW installation in Poland and 120 MW currently underway in Latvia, we have refined our processes to achieve outstanding results. Our well-coordinated logistics network ensures timely delivery to any location in the Balkans or beyond.

Q: What specific measures have you taken to ensure business continuity during challenging times in Ukraine, your country of origin, and how do innovations enhance your adaptability?
A: In response to challenges such as the war in Ukraine, SolarSK has prioritized business continuity and employee support. Our facilities and offices are equipped with robust generators, PV systems, and battery storage solutions to maintain operations during power outages.

Additionally, we have implemented remote access systems for our design and operational servers, ensuring uninterrupted workflows. Our recent investment in a second galvanization line in western Ukraine enhances our production flexibility and capacity.

We also support employees who have relocated abroad by offering them job opportunities and assistance, enabling them to continue contributing to our growth and the Ukrainian economy. These measures, combined with a focus on innovation, ensure our adaptability and reliability as a partner for clients in the Balkans and beyond.

Moreover, these challenges have motivated our teams, primarily composed of Ukrainians, who demonstrate exceptional performance and productivity. At the same time, we have fully independent offices and companies in the EU (Poland), North Macedonia, Serbia, and the Baltics, which continue to deliver growing results year after year and are not directly affected by potential geopolitical risks. This provides us with significant agility and helps mitigate risks for our clients.

Q: How does SolarSK create solutions tailored to the specific needs of local markets in the Balkans, and what are your plans for further regional collaboration?
A: SolarSK is deeply integrated into the renewable energy market in the Balkans, addressing its unique needs through customized solutions and a strong local presence. Since 2021, we have established offices in Skopje, North Macedonia, and Belgrade, Serbia, where we have successfully completed several large-scale EPC projects with a total capacity of 150 MWp of installed power. Additionally, the distribution of our PV mounting systems is three times that volume.

Entering a new country begins with integrating our corporate standards and practical experience with newly formed local teams. At the same time, we familiarize ourselves with the country's standards, construction and energy regulations, grid specifics, and energy sales markets. Combining local experts who understand these regulations and the country's mindset with our experienced design and management center allows us to deliver optimal solutions and maximize returns for potential investors.

Looking ahead, we plan to expand our presence further by leveraging our local offices, expertise, and partnerships to support the growth of renewable energy in the Balkans. We aim to contribute to the region's energy independence and sustainable development.

Yevgeny Yaremenko,
Founder and CEO of SolarSK

Q: What is SolarSK's long-term vision for contributing to the development of renewable energy?
A: Our long-term vision is to drive the global transition to renewable energy by providing reliable and sustainable solutions. We continuously strive for innovation, invest in the latest technologies, and expand our product portfolio to meet the ever-changing needs of the industry. We also explore and integrate innovative products from leading global manufacturers into our projects, such as the latest BESS systems with energy management software and other advanced technologies.

We are committed to supporting local communities and businesses in the Balkans and other regions in achieving their renewable energy goals. By fostering partnerships, enhancing our production capacities, and maintaining our dedication to quality and sustainability, we aim to remain at the forefront of the renewable energy sector for years to come.

Interview by Milena Maglovski

SEE ENERGY: NEW CHALLENGES AND SOLUTIONS IN THE ENERGY TRANSITION

The SEE ENERGY 2024 conference, held in late October in Novi Sad, brought together over 350 experts from the energy sector, environmental protection, financial institutions, and government bodies. Now, in its seventh edition, the two-day conference provided a strategic platform for discussing the future of energy stability and sustainable development through seven panels and one interactive workshop.

The first day focused on diverse topics, starting with discussions on waste utilization, biomass, and the potential of the circular economy in Serbia. Participants explored how the new regulation on the cessation of waste status could enable companies to transform waste into valuable resources, opening up new economic opportunities. Various methods for processing bio-waste were highlighted, including biogas plants that produce energy and composting for high-quality fertilizer production.

With its relatively developed agricultural and food industries, Serbia has the necessary resources to develop energy-sustainable solutions. Data presented during the event showed that one ton of bio-waste could generate enough electricity to power 32 households for one day. The exact amount could also provide heating for 24 households or produce biogas sufficient for a vehicle to travel approximately 166 kilometers.

Another key topic of the first day was the ESCO financing model, which enables energy and financial savings through long-term contracts.

Photographs: SEE ENERGY

Discussions centered on how ESCO companies finance and manage energy efficiency improvement projects, allowing clients to transition to sustainable energy without neglecting their core business activities.

The Carbon Border Adjustment Mechanism (CBAM), a European Union initiative to combat climate change and pollution, was an unavoidable topic. Participants examined the impact of CBAM on the Serbian economy, focusing on potential strategies for alignment with this mechanism. Strategies discussed included possibly introducing a national carbon tax or a regional emissions trading system. At least 1,500 Serbian companies are subject to this mechanism. The general consensus was that CBAM is inevitable, despite earlier expectations of delays due to geopolitical tensions, which did not materialize.

The second day began with a focus on ESG principles and their application in the energy transition. Discussions covered the latest technologies and innovations supporting reducing environmental footprints, improving social responsibility, and aligning with regulatory requirements.

The focus then shifted to Serbia's ambitious plans to significantly increase the share of renewable energy sources by 2040. Discussions also addressed the role of nuclear energy in the country's energy mix, especially in the context of gradually phasing out coal as a primary energy source, particularly lignite, whose reserves in Serbia are becoming increasingly scarce. Participants debated how renewable energy sources alone cannot fully meet Serbia's electricity consumption needs—not due to a lack of skilled labor but because of climatic conditions. As energy consumption continues to grow year after year, renewable sources are unpredictable and must operate in synergy, depending on weather and conditions. This underscores a crucial energy strategy: the construction of nuclear reactors, which, by mid-century, along with renewable energy sources, could replace coal.

The presented data indicated that one ton of bio-waste could generate enough electricity to power 32 households for one day

As the day progressed, SEE ENERGY focused on challenges in public charging infrastructure for electric vehicles (EVs). Representatives from Charge&GO, which has installed over 130 public charging connectors, shared their experience. A significant increase in the number of charging sessions was highlighted—from around 300 registered sessions in 2021 to tens of thousands by 2024. These figures emphasize not only the growing use of electric vehicles but also the potential issue of charger saturation, with chargers soon expected to be occupied throughout the day. Such challenges put additional pressure on infrastructure and require careful planning to avoid long wait times. Charge&GO stressed the importance of educating users on app and RFID card usage and familiarizing them with the practicalities of electric vehicles.

On the final, but no less significant, panel titled Batteries and Grid Integration, MT-KOMEX explained that battery systems have become an essential component of modern energy projects. Like solar technologies that have evolved in recent years, battery systems have recently emerged as a key topic, mainly influenced by new regulations requiring their integration into large-scale energy projects and economic factors such as electricity purchase prices. It was explained that integrating battery systems into solar projects increases total investment costs by approximately 10 percent but provides substantial flexibility, enabling the provision of additional energy services and facilitating energy delivery to the grid during peak demand periods. With technological advancements, batteries are becoming increasingly affordable and advanced, making their benefits more evident, according to the MT-KOMEX representative.

Overall, SEE ENERGY 2024 met the expectations of attendees, as it does every year, and the same quality is expected for the next conference, scheduled for 2025.

Prepared by Milica Vučković

THE DEVELOPMENT AGENCY OF SERBIA AS A DRIVER OF SUSTAINABLE CHANGE

Global trends increasingly position sustainability as a key component of success, presenting significant challenges for entrepreneurs. The Development Agency of Serbia (RAS) recognizes the importance of sustainability in business operations and actively contributes to implementing ESG principles through various initiatives and programs. The Agency strives to help businesses improve their operations, become more competitive, and attract foreign investments through education, consulting, and financial support.

RAS fully supports ESG principles, viewing them not only as essential for environmental protection but also for responsible behavior toward employees and the broader social environment. Radoš Gazdić, Acting Director of RAS, emphasizes that while the formal application of ESG principles in Serbia is not yet mandatory, it is gradually becoming a standard for good governance, particularly among large companies operating within the European Union. According to him, Serbia already has a solid foundation for further alignment with ESG

Implementing sustainable business practices helps reduce environmental and social risks while increasing economic stability.

Photograph: Pixabay/Alexa

principles, with nearly 27 percent of its electricity coming from renewable sources. However, he underscores the need for progress in areas such as waste management and the development of green energy.

"We are actively working on educating small and medium-sized enterprises (SMEs), helping them adapt to ESG standards. Since 2022, in cooperation with UNDP, numerous workshops and activities have been organized, involving over 30 participants in the RAS Supplier Development Program aimed at integrating SMEs into the supply chains of multinational companies. Additionally, at the beginning of 2024, in partnership with the International Labour Organization (ILO), training sessions were conducted focusing on Germany's Supply Chain Due Diligence Act and EU directives, emphasizing establishing internal grievance mechanisms within companies. These activities help businesses align with modern sustainable business requirements," explains Gazdić.

The Agency is planning new workshops for the SME sector in collaboration with UNDP. These free workshops will enable entrepreneurs to apply ESG principles practically in their businesses. Entrepreneurs will gain concrete tools and methodologies for implementing sustainable business practices.

Foreign investors planning large-scale projects often require adherence to specific environmental and social standards, such as using green energy, reducing carbon dioxide emissions, responsible waste management, and recycling. Gazdić notes that Serbia is ready to meet these demands but reminds us that realizing major projects takes several years for investors and the state. Therefore, it is crucial to assess Serbia's ability to respond to investors' needs within the appropriate timeframe for project implementation.

The implementation of sustainable business practices helps reduce environmental and social risks while increasing economic stability

"One of the key goals of the Development Agency of Serbia is to increase the international visibility of our country as an attractive destination for sustainable investments. We aim to enhance the country's competitiveness in the global market by promoting the advantages Serbia offers regarding ESG standards. In this context, RAS is connecting with investments that enable the green transformation of the economy and increase Serbia's competitiveness," he explains.

In the process of joining the European Union, alignment with ESG standards is becoming increasingly important. Implementing sustainable business practices helps reduce environmental and social risks while increasing economic stability. Companies adopting ESG principles already have a competitive edge, attracting foreign investors and aligning more easily with European regulations. These principles also serve as safeguards against environmental disasters, social issues, and corruption. Since the EU is Serbia's leading trading partner, European companies are expected to increasingly demand the application of ESG standards from their Serbian partners in the future.

Given the high initial costs of investments in green technologies, RAS supports entrepreneurs who want to implement sustainable projects. Support programs, such as the Equipment Procurement Program, offer grants to micro, small, and medium-sized enterprises (MSMEs) to purchase production equipment that contributes to efficient and sustainable production. Additionally, RAS assists entrepreneurs who want to enter global supply chains by providing resources and consultations on aligning with ESG standards.

For entrepreneurs seeking to transition to sustainable business practices, RAS offers not only financial support but also education and guidance on sustainable business models. The mission of the Development Agency of Serbia is to contribute to the competitiveness and resilience of Serbia's economy in the global market, creating long-term value through sustainable investments.

Prepared by Milica Radičević

Photograph: Pixabay/Gerd Altmann

SHAPING A SUSTAINABLE FUTURE THROUGH ENVIRONMENTAL PROJECTS

The ecological crisis is a global challenge requiring collective effort, but local initiatives tailored to the needs of communities and their environments often serve as the starting points for change. While small ideas may lack the power to drive widespread transformation on their own, they can lead to significant improvements with the proper support. Enhancing energy efficiency, protecting the environment, and fostering sustainable development are essential for preserving nature and ensuring a secure future. The Eco Fund provides this support by finan-

Photographs: Eco Fund

cing projects addressing these critical issues. Their programs are designed for citizens, businesses, local governments, and organizations dedicated to environmental protection.

Through subsidies, the Eco Fund facilitates the implementation of environmentally friendly technologies, including adopting renewable energy sources, reducing CO_2 emissions, and implementing energy efficiency measures in households, businesses, and public institutions. It also supports sustainable transport and the development of green technologies. Ecology permeates all Eco Fund activities and projects.

Projects have been implemented in collaboration with non-governmental organizations to raise awareness about the importance of the circular economy, biodiversity conservation, and responsible resource management. These projects also provide local communities with opportunities to protect natural resources actively.

A Successful Year

In 2024, special attention was focused on activities related to pollution reduction and improving waste management. One of the most significant steps taken was remediating illegal dumpsites in 10 municipalities across Montenegro. At 61 locations, tons of waste were removed from areas exceeding 289,000 m².

The Eco Fund also invested over 1.5 million euros in modern municipal equipment for 21 municipalities, enabling more efficient waste management, improvements to existing collection and processing systems, and enhanced hygiene levels. A unique contribution was made by developing new green areas in six municipalities, covering 60,720 m². These activities included tree planting, installation of urban furniture, and the creation of spaces for recreation and leisure.

A particularly notable project focused on energy efficiency in homes, with a budget of 7.5 million euros, allowing over 4,500 applications for subsidies aimed at insulation, window replacement, and more efficient heating systems. Additionally, with a budget of 2.7 million euros, the sustainable hotels project significantly improved the tourism sector by introducing renewable energy sources and optimized consumption systems in 16 hotels. In Pljevlja, a project was implemented to improve the energy performance of collective buildings. With a budget of 1.1 million euros, work included insulation, facade replacement, and window upgrades, reducing energy losses and improving living conditions for the local population.

One of the most significant steps taken was remediating illegal dumpsites in 10 municipalities across Montenegro. At 61 locations, tons of waste were removed from areas exceeding 289,000 m²

A standout example of success is the rural tourism support program, which aims to improve energy efficiency in households providing hospitality services. With a budget of 500,000 euros, this program contributes to reducing energy costs and increasing the sustainability of rural tourism, offering an additional incentive for rural area development. Households were also given the opportunity to replace old appliances with energy-efficient models. Last year, over 800 households replaced outdated appliances with new, energy-efficient refrigerators and ovens; even greater participation is expected in the coming year.

"All these efforts are part of our broader strategy to make Montenegro a country with efficient and sustainable waste management systems, where natural resources are protected, and local communities enjoy a higher quality of life," the Eco Fund stated.

They described 2024 as a very successful year. Still, they noted remaining challenges, including the need to further educate citizens and businesses on the benefits of energy efficiency and the implementation of renewable energy sources. Additionally, future efforts must focus on finding new solutions to enable faster and more efficient implementation of ecological initiatives.

Plans for the Upcoming Period

In 2025, the Eco Fund will continue pursuing ambitious goals in energy efficiency, green infrastructure, and CO_2 emissions reduction. In addition to expanding energy efficiency programs, the focus will be on developing and implementing new ecological technologies, particularly in renewable energy, and investing in green spaces. Further collaboration with international partners and non-governmental organizations is planned to secure additional project funding.

According to our source, the education of young people through school and extracurricular programs remains a priority. Their engagement is essential for building a green and sustainable future.

These initiatives, alongside other programs, aim to shape an environmentally conscious generation that will contribute to preserving nature and resources.

Prepared by Katarina Vuinac

CIRCUBOT: AN INNOVATION IN RECYCLING THAT COULD CHANGE THE FUTURE OF WASTE MANAGEMENT

Sorting, processing, and reusing waste materials are key steps toward achieving the goals of a circular economy. The CircuBot project, funded by the Science Fund of the Republic of Serbia as part of the Green Program for Science and Industry Cooperation, offers an innovative solution with the potential to improve recycling processes through automation. Developing a circular economy and more efficient recycling hinges on precise waste separation and sorting. This is precisely where CircuBot introduces a revolutionary approach: automated sorting with the help of robots.

The project responds to the strict regulations of the European Commission, which require member states to reduce municipal waste sent to landfills to 10 percent of total

Photograph: CircuBot

waste by 2035. Considering the current situation, with recycling rates in the European Union ranging from 20 percent to 60 percent and Serbia recycling less than 2 percent of its municipal waste, it is clear that swift action is needed to create a more efficient waste management infrastructure.

While many European Union countries already widely use automated sorting systems, Serbia still relies on manual labor in recycling centers, which not only slows down the process but also creates unsafe working conditions. CircuBot aims to address this issue: by automating waste separation with robots, it increases recycling efficiency and creates safer working environments. This technology could significantly reduce landfill waste and accelerate the transition to a circular economy.

The CircuBot project will be a key element in accelerating Serbia's transformation toward a sustainable waste management system aligned with European standards and the goals of a circular economy

Prototype Development

CircuBot combines advanced robotics, artificial intelligence (AI), and machine learning to develop a system that automatically detects, sorts, and analyzes waste. A prototype system has been developed through the collaboration of two leading Serbian teams in robotics and AI—from the Faculty of Engineering Sciences in Kragujevac and the School of Electrical Engineering in Belgrade. It uses robotic arms, industrial cameras, and advanced computational analysis to identify and separate various types of waste, including PET packaging, cans, and electronic waste.

In the project's initial phase, the team focused on developing the prototype in a laboratory setting, using e-waste samples obtained from leading Serbian e-recycling firms. The prototype concept is based on a robotic arm and an industrial camera that detects waste moving along a conveyor belt. Using images of the waste, the system automatically localizes and classes various waste types, after which the robotic arm physically sorts them. This approach not only accelerates the recycling process but also reduces the need for human labor in hazardous conditions.

In addition to increasing efficiency, CircuBot offers other positive impacts. Automation in recycling significantly improves worker safety and health, creating a more comfortable work environment compared to current conditions, which involve manual sorting in standing positions and often unhealthy surroundings. Furthermore, developing this technology contributes to building a team of robotics, AI, and computer vision experts who will tackle technological challenges and advance the industry.

The CircuBot project will be a key element in accelerating Serbia's transformation toward a sustainable waste management system aligned with European standards and the goals of a circular economy. This pioneering project not only demonstrates the potential of innovation but also provides concrete solutions to long-term environmental challenges, laying a new foundation for responsible waste management in the future.

At the International Fair of Technology in Belgrade in 2024, the project results were showcased for the first time. Visitors were introduced to the key elements of the prototype, including the mechanism for automated waste sorting and the AI-powered control interface. They had the opportunity to see a live prototype demonstration and engage with team members about technical challenges and the project's next steps.

The project authors are Arso Vukićević, PhD Assistant Professor at the Faculty of Engineering Sciences, University of Kragujevac; Kosta Jovanović, PhD, Associate Professor at the School of Electrical Engineering, University of Belgrade; and Dragana Nišić, PhD, Associate Professor at the Faculty of Mining and Geology, University of Belgrade.

CircuBot Project Team

FIRST SOLAR POWER PLANT INSTALLED ON THE ROOF OF A VOLVO TRUCK SERVICE CENTER IN SERBIA

Since its founding nearly 96 years ago, Volvo Trucks has built its business on strict adherence to high quality, safety, and innovation standards. In recent decades, the company has expanded its mission to place a special focus on environmental protection, establishing itself as an industry leader in sustainable business practices and innovation. As part of its global strategy to reduce its environmental footprint, Volvo Trucks Serbia has taken a significant step forward by installing the first solar power plant on the roof of its service and business center in Novi Banovci.

This project, implemented in collaboration with renewable energy experts, represents a key milestone in achieving ambitious sustainability and energy efficiency goals. The solar power plant on the roof of the Novi Banovci service center is not only an example of innovative approaches in the truck service industry but also tangible evidence of Volvo Trucks Serbia's ongoing efforts to minimize its environmental impact. According to expert estimates, solar panel production will meet a large portion of the service center's electricity needs, with an expected annual output of around 170 MWh, significantly reducing reliance on traditional energy sources.

In today's environment, where electricity prices are continually rising and supply reliability is becoming increasingly uncertain, installing a solar power plant brings multiple benefits. In addition to reducing electricity costs, the annual

Photograph: Energy Portal

reduction in carbon dioxide emissions by approximately 70 tons is a significant step toward achieving climate goals. This amount of carbon dioxide is equivalent to planting more than 3,200 trees, further emphasizing the company's commitment to reducing its environmental footprint and conserving natural resources.

For the company, this project is just part of a broader strategy to reduce its environmental impact and recognize the importance of sustainable solutions in daily operations. Volvo Trucks has also taken various measures to reduce energy consumption and increase efficiency in its service and sales centers in Novi Sad, Čačak, and Doljevac near Niš. Across all these locations, Volvo Trucks demonstrates a strong commitment to environmental preservation by implementing green technologies and optimized processes that minimize the negative impact on nature.

The solar power plant on the roof of the service center in Novi Banovci is not just an example of an innovative approach in the truck service industry but also tangible proof that Volvo Trucks Serbia is continuously striving to reduce its environmental impact

The construction of the solar power plant perfectly aligns with Volvo Trucks' broader vision for sustainability, where reducing environmental impact is of critical importance. The company not only invests in new technologies but also in educating its employees and industry partners on the importance of energy efficiency and environmental protection. Through initiatives like this, the company makes a tangible contribution to the global energy transition and encourages others to implement sustainable solutions in their operations.

In the future, Volvo Trucks plans to continue implementing similar projects across Serbia and the region to further contribute to reducing harmful gas emissions and achieving sustainable business goals. With the solar power plant on the roof of its service center in Novi Banovci, Volvo Trucks Serbia is laying the foundation for a sustainable energy future that benefits the company, the broader society, and the environment.

This project powerfully conveys responsibility to future generations, demonstrating that high business standards can be combined with a commitment to the planet. This step is yet another example of how the company follows global trends and implements them locally, setting a new standard for the truck service and transport industry.

Prepared by Milica Radičević

Photographs: (first row) Volvo; (top) Energy Portal

SUSTAINABILITY IN THE WESTERN BALKANS: THE PATH TO TRANSITION

The Western Balkans ESG Foundation is a nonprofit organization established in April 2024 and based in Belgrade. As the first organization in the region focused on ESG (Environmental, Social, Governance) standards, its primary mission is to support the sustainable transition of the Western Balkan economies by integrating ESG principles into everyday business practices, public policies, and local communities. The Foundation also prioritizes improving transparency in reporting and education in sustainability, viewing these areas as key to the region's long-term development.

The Foundation focuses on four key areas. Education is one of its main priorities. To raise awareness about ESG standards, the foundation develops various training platforms targeting the private and public sectors, media, universities, and civil society organizations. Its ESG e-learning platform ensures continuous education, while newsletters provide the latest information on these topics. Additionally, the Foundation supports the implementation of the European Green Deal and the development of expertise in specific ESG areas.

"Reporting is also a crucial part of the Foundation's work. The organization provides expertise in non-financial and ESG reporting in line with national and EU regulations, helping businesses achieve transparency and compliance. We are also developing a certification system for professionals and companies, enabling them to measure ESG goals and demonstrate progress in implementing sustainable practices," explains Milena Mićanović, co-founder and director of the Foundation.

Communication and networking are essential to the Foundation's operations. Connecting ESG experts and communities through a unique ecosystem facilitates the exchange of experiences and best practices. To this end, the Foundation has organized webinars, workshops, and roundtables, with plans to host an annual ESG conference. It places a particular focus on supporting small and medium-sized enterprises (SMEs), young

Photographs: (top) Pixabay/Łukasz Winiarski; (bottom) Unsplash/Guillaume de Germain

entrepreneurs, and women entrepreneurs. Networking and education are seen as key to accelerating the adoption of these standards in the region.

In the coming years, the Foundation plans to organize the first regional ESG conference, expand its ESG e-learning platform, and further develop the certification system. It also aims to broaden its network of partners and empower local communities through education and networking, thereby contributing to the sustainable transformation of the region. Through these activities, the Foundation seeks to become a key partner in the sustainable transformation of the Western Balkans, promoting standards that enable long-term economic, social, and environmental sustainability in the region.

Challenges in Implementation

While the Foundation's work focuses on promoting ESG principles, it faces significant challenges. The specific conditions in the region, where ESG standards are not yet deeply embedded, pose a considerable obstacle. The greatest challenge is the low level of awareness about the importance of these issues. In many cases, ESG principles and sustainability are not prioritized in business practices or policies, complicating their implementation.Many organizations, especially SMEs that form the backbone of the Western Balkan economies, lack the resources, knowledge, or technical support needed to align with ESG requirements.

Photograph: Pixabay/Ngo Minh Tuan

"Regulatory challenges also play a major role. While countries in the region formally aspire to EU membership, the implementation of legislative frameworks related to ESG and sustainability often lags, slowing progress toward the European Green Deal goals. There are also barriers to legislative alignment, and a lack of collaboration between the private sector, public institutions, civil society, and academia makes collective work on ESG topics difficult. Resistance to change, whether due to a lack of information or fear of new costs, remains a challenge for the Foundation as it strives to accelerate the adoption of sustainable practices," Mićanović emphasizes.

Priorities for Developing ESG Standards

In the coming years, one of the Foundation's primary priorities will be raising awareness and enhancing education about ESG standards. Through its academy and specialized programs, the Foundation equips businesses, particularly SMEs, with the knowledge and tools to understand how ESG can improve competitiveness and optimize operations. Special attention will be given to implementing the European Green Deal and mechanisms such as CBAM (Carbon Border Adjustment Mechanism), which will directly impact the region's export sectors. CBAM will require companies to reduce carbon emissions to remain competitive in the EU market, highlighting the need for education and technical support.

The Foundation also works to build local capacities by developing a network of ESG experts and fostering connections with academic institutions. This is crucial for the long-term implementation of standards, as local experts can support businesses in adapting to new requirements, whether mandatory or voluntary.

Tangible Benefits for Businesses

Implementing ESG principles brings numerous benefits to businesses in the Western Balkans. ESG implementation increases competitiveness in global markets, enabling businesses to attract new investments and operate in markets like the EU, emphasizing sustainable practices. Additionally, ESG standards enhance a company's reputation, as consumers increasingly value environmental and social responsibility. This boosts customer loyalty and strengthens relationships with partners and investors.

ESG standards also help businesses comply with legislation, reducing legal risks and qualifying them for subsidies and support for sustainable practices. Companies adopting these principles can optimize resources, reduce costs through more efficient energy use and waste reduction, and increase profitability. Furthermore, ESG standards improve employee relations, attract talent, and enhance productivity, particularly among younger generations who prefer responsible employers.

Businesses that implement ESG principles often gain access to more favorable financial resources, further strengthening their financial position.

In a global context, ESG is becoming a business necessity and a pathway to long-term sustainability and growth. Companies that successfully implement ESG principles strengthen their competitiveness and contribute to social and environmental responsibility, laying the foundation for future success.

Prepared by Milica Radičević

PLOGGING – EXERCISE FOR HEALTH AND A CLEANER ENVIRONMENT

Caring for health plays an essential role in daily life, from the food we consume to the quality of our sleep and the time we dedicate to physical activity. Walking, jogging, or running strengthens the body and mind and offers opportunities to connect with nature. However, for these activities to be genuinely beneficial, the environment we spend our time in must be healthy and clean.

In our country, plogging is taking on the characteristics of a pioneering movement, gaining popularity in recent years thanks to the activities organized by Plogging Serbia, a sports association

Photograph: Stefano Jeantet

Our country is rich in natural treasures and beauty, inviting exploration and active enjoyment. Yet, how much we truly value what we have is reflected in the growing consequences of human neglect—polluted air and piles of waste that disrupt nature's pristine beauty.

Respect for nature is most deeply rooted when instilled in childhood. Those fortunate enough to have parents who nurtured their love for nature and outdoor activities carry these values into adulthood. Such was the childhood of Miloš Stanojević. As he grew older, it became increasingly difficult for him to pass through the stunning landscapes of our country without noticing the waste that marred their beauty. This desire to confront the problem inspired Miloš to become a champion of plogging. This practice combines jogging or walking with collecting litter to clean the environment while staying physically active.

In early 2021, Miloš created the Instagram profile @trail_cleaner to share his activities, raise awareness about the surrounding problem, and emphasize the importance of proper waste disposal. His mission also promotes the idea that picking up litter left by others is not something to be ashamed of but rather a responsibility we should all embrace.

"It's a combination of upbringing, rebellion against the traces of human negligence and ignorance, and the need to raise awareness that it's UP TO YOU, up to all of us. That's where the slogan #oćuštamiteško ('I want to, is it so hard?') comes from," Miloš explains.

Plogging Srbija

In our country, plogging is emerging as a pioneering movement, gaining popularity in recent years thanks to the activities organized by Plogging Serbia, a sports association. As part of its efforts, this organization conducts cleanup initiatives at various locations, including natural and urban areas. Through educational and promotional campaigns, it also organizes events during sports festivals, races, and school programs. A significant contribution is its participation in races organized by the Association for Recreation and Fitness of Serbia, which annually holds eight races across Serbia.

Miloš engages citizens in an interesting way by highlighting the importance of plogging through his original show, Eko manija(k).

What is Plogging?

Plogging, which originated in Sweden in 2016, combines the words plocka upp (pick up) and jogging (running). This blend of recreation and ecology reduces waste in nature, raises pollution awareness, and promotes responsibility toward the environment. It inspires communities to connect more deeply and care for nature.

Photograph: Stefano Jeantet

Viewers can see the locations of cleanup initiatives, how these efforts are carried out, and how collecting waste can even be enjoyable during activities like kayaking, cycling, rock climbing, diving, and similar pursuits.

Plogging Serbia attracts an increasing number of enthusiasts and volunteers, including professional athletes and environmental activists, who regularly participate in various cleanup and educational programs. Notable locations for these initiatives, as highlighted by Miloš, include Vršački breg, regarded as one of the cleanest spots they have visited and cleaned multiple times in conjunction with the Challenge Race League organized by the Association for Recreation and Fitness of Serbia. Other cleanup sites include Rtanj, Fruška Gora (Tour de Fruška), Golija, Avala, the Uvac canyon, and rivers like the Sava and the Danube, where hundreds of kilograms of waste have been removed.

"I would particularly highlight Silver Lake, where the local government supported the initiative, and students from nearby schools joined. This type of volunteerism and support yields the best results and is a key aspect of our efforts because it's the youth who will join us in fighting for a better future," Miloš explains.

The collected waste is sorted by categories, such as plastic, glass, metal, paper, and bio-waste, which facilitates recycling. After sorting, the waste is handed over to authorized companies or local municipal enterprises, with whom arrangements are typically made for the disposal procedure.

When discussing waste management in Serbia generally, Miloš emphasizes that some larger municipalities are better organized, but smaller communities still face challenges in waste collection, recycling, and disposal. While initiatives are underway to improve the waste management system, citizens need to remain active and contribute to proper sorting and disposal themselves.

International Success

Plogging gained significant attention in Serbia this September following the World Plogging Championship in Italy, where Serbian ploggers achieved remarkable results. Out of six re-

The collected waste is sorted into categories such as plastic, glass, metal, paper, and bio-waste, which facilitates recycling

Photographs: (top) courtesy of Miloš Stanojević; (bottom) Stefano Jeantet

Although there are initiatives to improve the waste management system, citizens need to be active and contribute to proper waste sorting and disposal themselves

presentatives from Serbia, five ranked in the top 10, with Miloš taking first place and becoming the world champion.

The competition takes place on a specific route through a small mountain town, its surrounding nature, mountain trails, and the town center. Participants compete individually, each receiving four bags for collecting trash, with the allowance of carrying three additional pieces of waste outside the bags. The race rules stipulate a six-hour time limit, meaning participants who finish early lose points, while those who finish late are disqualified. Competitors must register at three designated checkpoints, usually located in remote and challenging areas such as mountain peaks or lakes.

The scoring system is particularly interesting. As Miloš explains, it factors in the distance covered during the six hours; the elevation gained, and most importantly, the recycling value of the collected waste. This means a smart collection of high-recyclable-value waste can compensate for fewer kilometers run.

Plogging is a unique racing discipline where the winner is not the fastest or the first to finish but the one who demonstrates the most endurance and skill in locating and collecting waste. To successfully complete the race, all collected waste must be brought to the finish line—carried, tied to the participant, or dragged along the final 100-meter stretch of the course.

The waste Miloš brought to the finish line included a car battery, rechargeable batteries, a microwave oven, steel plates (approximately 30 kilograms), a lamp, various other trash, two car tires (one with a steel rim), and part of a truck axle. Regarding other criteria, Miloš ran approximately 33 kilometers, gained about 1,300 meters in elevation, and carried around 89 kilograms of waste.

Interestingly, electronic waste (batteries, car batteries, electronic devices) holds the highest recycling value. This earned Natalija Čakarević, one of Serbia's ploggers at the competition, a special award for collecting the most electronic waste.

"It's important to emphasize that this competition is not just an extreme physical activity but also proof of a collective contribution to environmental preservation, making it a special and motivating event for all participants. Winning the championship was a personal achievement and an incentive to spread further awareness about plogging as a significant ecological activity. This competition is characterized by endless positive energy and the power of unity because, in protecting nature, everyone is a winner," Miloš concludes.

He adds that Plogging Serbia aims to continue educating and motivating people of all generations and plans to host the World Plogging Championship in Serbia in 2027.

Citizens who wish to join their initiatives can find updates on upcoming events via their Instagram profile, @ploggingserbia. The team is always open to suggestions and ready to support such initiatives within their capacity.

Prepared by Katarina Vuinac

Photograph: Stefano Jeantet

A CENTRAL HUB FOR GREEN ECONOMY AND INNOVATION

The Rimini Expo Center became the epicenter of global innovation in sustainable development and the green economy, hosting the 27th edition of the international Ecomondo trade fair from November 5 to 8. This prestigious event attracted experts, entrepreneurs, and institutional representatives from over 100 countries. More than 1,600 exhibiting brands and 72 international organizations presented revolutionary solutions for ecological transition. Ecomondo is not just a trade fair but a meeting point for ideas, visions, and tangible solutions shaping the future.

As a reliable source of information on energy and environmental protection, Energy Portal was once again at the heart of the event. Covering the fair from its opening, we had the opportunity to gather key information about innovations and to attend all the conferences and panel discussions that shaped this year's Ecomondo.

We particularly highlight the presence of Serbian entrepreneurs at the fair, including MT-KOMEX, a company known for contributing to sustainable development and innovative solutions in green energy. The company's representatives had the opportunity to exchange experiences with global industry leaders, gain new insights, and explore potential improvements for their projects.

Italy as a Leader in the Green Economy

One of the central themes of this year's Ecomondo fair was Italy's position as a leader in the development of a circular economy, reaffirming its status as a country with high sustainability standards. Italy boasts an impressive recycling rate of 72 percent, significantly above the European average, while the use of circular materials in its economy has reached 18.7 percent. These achievements place Italy at the forefront of countries actively promoting sustainable resource management and waste reduction.

At the General Assembly of the Green Economy, one of the key events of the fair, the 2024 State of the Green Economy Report, was presented. The report highlighted Italy's accomplishments in reducing CO_2 emissions, which have decreased by over 6 percent in recent years. This progress is an environmental milestone and an essential step toward meeting the goals outlined in the European Green Deal. Italy's commitment to reducing its carbon footprint is reflected in numerous initiatives to advance sustainable mobility, such as the development of electric and hybrid vehicles, improvements in public transportation, and the promotion of cycling infrastructure.

The report also sheds light on challenges Italy faces, such as optimizing land use and further developing sustainable forms of mobility. These challenges were central topics of numerous panels and discussions during the fair, where experts and industry representatives presented innovative solutions and strategies to overcome them.

Awards for the Most Innovative Solutions

The Innovation District at the fair served as the epicenter of new ideas, showcasing over 150 startups from around the globe with their groundbreaking solutions. This year, particular emphasis was placed on environmental monitoring systems powered by artificial intelligence, bioenergy, land regeneration, the blue economy, and recycling.

Three of the most innovative startups were honored with the prestigious Lorenzo Cagnoni Award for Green Innovation. At the same time, other participants had the opportunity to connect with key industry players and explore potential collaboration opportunities.

Ecomondo 2024 again reaffirmed its role as a central hub for promoting sustainable practices and technological innovation.

Prepared by Milena Maglovski

Photographs: ECOMONDO

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