

How
CBAM Will
Transform
the Serbian
Economy

Maria Clara de Abreu Rada

Ambassador of Brazil in Serbia

Brazil Between the Challenges and Opportunities of the Green Transition



RESPONSIBLE BUSINESS ]

**MT-KOMEX 2025:** 

A YEAR OF TECHNOLOGICAL BREAKTHROUGHS
AND REGIONAL EXPANSION



### WORD OF THE EDITOR



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Dear readers,

The year we are slowly bidding farewell to has brought us many reasons for pride. The pages of Energy Portal Magazine have been filled with a series of inspiring stories and conversations with interlocutors whose knowledge and vision are driving the energy transition in our region.

Before you is the final issue of 2025, with which we close another chapter and gradually step into 2026, confident that it will bring new green energy and even stronger momentum toward a sustainable future.

In this issue, we spoke with H.E. Maria Clara de Abreu Rada, Ambassador of Brazil to Serbia, who reveals how this major country is building its path toward climate neutrality and the role international partnerships play in that process.

Our interlocutor was also Ljubomir Kolarek, Mayor of Prelog, who took us to this small yet highly ambitious town that leads the way in greening initiatives, modern waste management, and the transition to renewable energy sources in Croatia.

We also present a guide intended for local self-government units, designed as a practical tool for cities and municipalities that wish to support the development of citizen energy and actively involve residents in the energy transition.

Additionally, we hosted Slobodan Minić from the Fiscal Council, who explained how the implementation of CBAM will affect the Serbian economy and which measures can help mitigate its impact.

In the Eco-Innovations and People and Challenges sections, you can expect many interesting features – a story about a solar container from the Republic of Srpska, concepts of solar power plants on historical buildings that do not compromise their aesthetic and cultural identity, and much more.

Thank you for being part of our story this year as well. We believe that in the future, together with you, we will continue to follow and encourage innovations that contribute to the development of the energy sector and society as a whole.

Nevena Duvić Nevena Đukić editor-in-chief

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# BRAZIL BETWEEN THE CHALLENGES AND OPPORTUNITIES OF THE GREEN TRANSITION

t a time when the world is facing increasingly visible consequences of climate change, Brazil finds itself at a crucial crossroads between strong development ambitions and complex environmental challenges. The protection of the Amazon, the advancement of renewable energy, the development of biofuels, and more sustainable mobility, alongside the fight against deforestation, climate extremes, and social pressures, are simultaneously shaping the country's path toward a more sustainable future.

We spoke with the Ambassador of Brazil to Serbia, H.E. Maria Clara de Abreu Rada, about the priorities of Brazil's climate policy in 2025, the results achieved so far, and the potential for cooperation between Brazil and Serbia. In this interview, she reveals how Brazil is charting its course toward climate neutrality and the role it sees for international partnerships in that transition.

Brazil is accelerating the deployment of renewables, offshore wind, green hydrogen, biofuels, and low-carbon agriculture (ABC+)



Q: How is Brazil currently advancing its efforts in combating climate change, and what are the government's priority programs for reducing emissions and preserving the Amazon in 2025?

A: Brazil's 2024 NDC reaffirms the goal of climate neutrality by 2050 and sets a 2035 target of reducing emissions by 59-67 percent below 2005 levels. These commitments are being operationalized through the Ecological Transformation Plan, launched by the federal government in December 2023, which advances a national carbon market, new energy-transition legislation, a Brazilian Sustainable Taxonomy, and an expanded Climate Fund.

by tougher enforcement, real-time satellite monitoring linked to rural credit restrictions, and expanded forest finance via the Amazon Fund and the Tropical Forests Forever Facility (a proposed global fund led by Brazil to finance tropical forest conservation permanently). These efforts place strong emphasis on Indigenous territories, forest protection, and a standing-forest" bioeconomy.

Beyond forests, Brazil is accelerating the deployment of renewables, offshore wind, green hydrogen, biofuels, and low-carbon agriculture (ABC+), all supported by green industrial and financial policies designed to align economic development with long-term climate goals.

Maria Clara de Abreu Rada Ambassador of Brazil to Serbia

#### tains a national registry of high-risk municipalities, and requires each of them to prepare local contingency plans. Prevention is based on mapping and classifying risk areas, limiting or prohibiting occupation of steep slopes and floodplains, and, where vulnerable settlements already exist, investing in slope stabilization, drainage, flood-control infrastructure, and basic sanitation. Early-warning and monitoring networks feed a national disaster information system, while local civil defense bodies are responsible for training, public awareness, and community preparedness. In the case of forest fires, Brazil has strengthened legislation, expanded the role of the National Environment Fund, and launched integrated operations, such as Operação Guardiões do Bioma, to prevent and combat illegal burning and deforestation. At the same time, the country is investing in resilient infrastructure and disaster-risk financing mechanisms.

Brazil's energy policy prioritizes renewable sources — especially hydropower, wind, solar, and biofuels — which keeps its electricity mix relatively clean by international

#### Brazil's energy policy prioritizes renewable sources especially hydropower, wind, solar, and biofuels



Deforestation has declined by around 11 percent in both the Amazon and the Cerrado\*, with Amazon loss roughly halved since 2023, driven Q: What are the key measures Brazil is implementing in the field of disaster prevention and management, particularly regarding floods, forest fires, and landslides, which are becoming increasingly frequent due to climate change?

Brazil's disaster-prevention A: system is coordinated by the National Protection and Civil Defense System (SINPDEC), which integrates federal, state, and municipal actions, main-

<sup>\*</sup> The Brazilian Cerrado is a vast, biodiverse tropical savanna in central Brazil, covering more than 2 million km<sup>2</sup>. Known as the "cradle of waters," it feeds major river systems and serves as a vital groundwater recharge zone. It is also a global biodiversity hotspot, home to an immense variety of plants, animals, and fungi, many of them endemic.



standards. Hydropower remains the backbone of the system, while onshore wind and solar are the fastest-growing sources, with substantial expansion expected through 2030. New regulatory frameworks are stimulating investment in offshore wind, green hydrogen, and sustainable aviation fuels (SAF), with the strategic objective of positioning Brazil as a relevant low-carbon energy exporter. In the coming years, the country anticipates continued growth in wind and solar capacity, the consolidation of green-hydrogen hubs, higher ethanol, biodiesel, and SAF output, stronger transmission infrastructure, rapid expansion of distributed solar, and new green-industry projects aligned with the Ecological Transformation Plan.

Q: Brazil's renewable energy sector is among the most developed in the world. Which energy sources does Brazil invest in the most, and what results are expected in the coming years? Additionally, how would you describe current trends in Brazil's energy sector?

A: Brazil invests most heavily in renewable energy, with hydropower forming the backbone of its electricity system and wind and solar emerging as the fastest-growing sources. Bioenergy—particularly ethanol, biodiesel, and biomass cogeneration also plays a central role, linking the energy transition to Brazil's strong agricultural sector. In the coming years, the country expects continued expansion of onshore wind and solar capacity, new regulatory support to unlock offshore wind and green hydrogen projects, rising production of sustainable aviation fuels (SAF), and reinforced transmission infrastructure to better integrate variable renewables into the grid.

Current trends already point in this direction: rapid growth in distributed rooftop solar, increasing private-sector investment in large renewable energy parks, the early delineation of offshore wind zones, and the rise of green-industry projects aligned with Brazil's broader ecological transition agenda. Taken together, these developments help consolidate Brazil's position as one



of the world's cleanest large-scale energy matrices.

Q: E-mobility is becoming a global priority. How is Brazil encouraging the development of electric vehicles, biofuels, and sustainable public transportation, and what are the expectations for the expansion of these technologies in 2026?

A: Brazil is promoting electric vehicles (EVs), biofuels, and sustainable public transport through a combi-



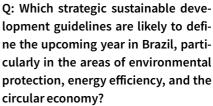
nation of industrial policy, fiscal in-

centives, and broader energy-transition frameworks. The Rota 2030 program provides tax incentives for the production of low-emission vehicles, while the newer Mobility and Innovation Green Program (Mover) newal, charging infrastructure, and low-carbon transport plans.

By 2026, the country expects rapid growth in EV manufacturing, with a wider range of flex-hybrid and battery-electric models available to consumers, as well as the expansion

**Brazil** is promoting electric vehicles (EVs), biofuels, and sustainable public transport through a combination of industrial policy, fiscal incentives, and broader energy-transition frameworks





of public charging corridors along

key highways and in urban centers.

A: Brazil's strategic sustainable guidelines for the coming year converge on three main fronts: stronger environmental protection, higher energy efficiency, and a scaled-up circular economy. On the environmental side, key priorities include sustaining the recent decline in deforestation through the continued implementation and expansion of the PPC-DAm (Action Plan for the Prevention and Control of Deforestation in the Legal Amazon) and the PPCerrado (government program designed to promote sustainable development and protect Cerrado biomes), tightening enforcement against illegal mining, logging and fires, and advan-





raises the bar on energy efficiency, recycled-content requirements, and investment in clean technologies across the automotive supply chain. At the same time, Brazil remains a global leader in biofuels, reinforcing RenovaBio, expanding ethanol and biodiesel blending mandates, and advancing regulations for sustainable aviation fuels (SAF). Urban mobility policies increasingly favor electric and hybrid buses, with major cities investing in fleet re-



cing an Amazon bioeconomy that values standing forest and increases Indigenous participation in decision–making and benefit–sharing.

In the energy sector, Brazil is set to keep expanding renewable sources - especially wind, solar, and biofuels - while introducing new efficiency standards under the Ecological Transformation Plan, and providing incentives for electric mobility, green hydrogen, and other low-carbon technologies. In the circular-economy agenda, federal policy is expected to advance national guidelines for recycling and reverse logistics, promote low-carbon and resource-efficient industrial processes, and encourage the sustainable use and traceability of critical minerals, all aligned with Brazil's Sustainable Taxonomy and green-industry programs. Taken together, these measures seek to align climate and biodiversity goals with economic modernization, technological innovation, and greater social inclusion.

## Q: What would you highlight as the most significant events or milestones in Brazil during 2025 concerning the environment, climate policies, and the energy sector?

A: The most significant milestones in Brazil in 2025 include the implementation of its updated NDC, which reinforces the goal of climate neutrality by 2050 and tightens emissions-reduction targets for 2035, and the consolidation of the Ecological Transformation Plan as the main vehicle to deliver these commitments. Over the year, this plan advanced key regulations for offshore wind, green hydrogen, sustainable aviation fuels (SAF), carbon markets, and the Brazilian Sustainable Taxonomy. At the same time, deforestation in the Amazon and the Cerrado continued to decline, supported by strengthened PPCDAm and PPCerrado programs, more robust enforcement operations on the ground, and in-



creased financing from the Amazon Fund, with a growing focus on Indigenous territories and forest-compatible economies.

In the energy sector, 2025 was marked by rapid growth in wind and solar capacity, the adoption of Brazil's first regulatory framework for offshore wind projects, and major public-private commitments green-hydrogen hubs linked to industrial decarbonization. Cities also accelerated the electrification of bus fleets and other forms of low-carbon transport, supported by federal credit lines and local climate plans. Structurally, Brazil emerged as a central player ahead of COP30, positioning environmental protection, climate ambition, and green industrialization as core pillars of its long-term national development strategy.





## Q: In which areas do you see potential for strengthening cooperation between Brazil and Serbia — whether in renewable energy, green technologies, research, or expert exchange?

A: There is strong potential to deepen Brazil-Serbia cooperation by centering it on biofuels and related green technologies, linking the energy transition with rural development in both countries. Brazil could share its long-standing experience in producing ethanol, biodiesel, and

sustainable aviation fuel (SAF), including second-generation biofuels, feedstock optimization using soy, sunflower, and rapeseed residues, and integrated agro-energy systems that raise farmers' incomes while reducing emissions and improving energy security.

On the knowledge side, both countries could launch joint research and pilot projects between universities and research institutes on fermentation processes, biorefinery models, lifecycle emissions accounting, and soil-carbon management, supported by expert exchanges, fellowships, and shared laboratories. Brazil could also assist Serbia in developing fuel-blending standards and green-transport policies—for example, ethanol and biodiesel blends and low-carbon fuel regulations—consistent with EU climate and transport targets.

On the industrial side, Brazilian and Serbian companies could partner







to build small- and medium-sized ethanol plants, modernize biomass boilers and cogeneration facilities, and expand bioenergy use in district heating systems. In this area, Serbia is already seeking upgrades.

In agriculture, cooperation could focus on sustainable crop rotations for bioenergy, dual food-fuel systems, and carbon-smart agriculture models inspired by Brazil's ABC+ technologies. Finally, Serbia could benefit from Brazil's RenovaBio model for fuel certification, carbon-intensity credits, and incentive schemes, using this experience to help design carbon markets and low-emission mobility policies that support long-term green growth in line with European decarbonization objectives.

Interview by Milena Maglovski



## PRELOG – A SMALL CITY WITH A BIG VISION

relog is a town in Međimurje County, northern Croatia, that is highly committed to sustainable development and environmental protection. The city actively promotes green initiatives and projects that improve the quality of life of its residents and position the community as a regional role model. Ljubomir Kolarek, the Mayor of Prelog, spoke to us about current projects and plans for the period ahead.

#### Q: The City of Prelog received a new city park this year. Could you tell us more about the importance and implementation of this project?

A: This is a significant step forward for the City of Prelog, and something we have been planning for a long time. At the same time, this is only the first phase of the project, as we will soon begin the expansion and additional landscaping in the southern part of Prelog. The total value of the project amounts to €625,200.45, of which €350,000 was co-financed by the Environmental Protection and Energy Efficiency Fund from the budget of the Republic of Croatia. Guided by the principle "think globally, act locally," the City of Prelog implemented a project

In the workshop titled
The Value of a Tree,
students, through play
and exploration, gained
insights into the many
benefits a tree provides
throughout its life cycle—
from germination to
death—including its most
important role for human
life: the production of
oxygen



to restore green infrastructure. The project, titled Prelog GoGreen II – City Park South – Phase I, includes landscaping part of the southern city park, namely the restoration of a 25,427 m<sup>2</sup> habitat degraded by the construction of the Dubrava Hydropower Plant reservoir, and the partial return of this area to nature. Habitat restoration includes the planting of green infrastructure, namely afforestation with native plant species (a total of 467

through afforestation with native plant species will also indirectly support the reproduction of animal populations, particularly pollinators.

The importance of restoring biodiversity in this area is further underscored by its location on the edge of the Natura 2000 network, the Mura-Drava Regional Park, and the Mura-Drava-Danube Transboundary Biosphere Reserve, which is protected by UNESCO. Through this

Habitat restoration includes the planting of green infrastructure, namely afforestation with native plant species, as well as the development of walking paths throughout the park, complete with communal infrastructure such as benches and waste bins



plants), as well as the development of walking paths throughout the park, complete with communal infrastructure such as benches and waste bins. The goal was to create new green areas within the urban space, with the aim of increasing tree canopy coverage in the urban area of the City of Prelog and strengthening resilience to anthropogenic impacts. A neglected, degraded site overrun with invasive species has been transformed into a landscaped green space that is intended to become the new lungs of the City of Prelog. It is important to emphasize that urban regeneration investment, we have restored at least a small part of the former natural environment—the well-known Drava forests—since nature restoration and enabling the revival of biodiversity represent a fast and cost-effective solution for carbon absorption and storage.

Q: Prelog has joined the international City Nature Challenge project, which encourages citizens to document biodiversity in their city. How do you view this initiative?

A: It is an outstanding achievement that we were also involved in this



Ljubomir Kolarek Mayor of Prelog

project. In Prelog, we established cooperation with the public institution Međimurje Nature and, most importantly for us, schools from our area also participated. The project aims to engage residents in observing and recording the nature that surrounds them and to improve their understanding of urban biodiversity. Through the City Park South project, we have already been educating the youngest generations about biodiversity. As part of the Prelog GoGreen II - City Park South - Phase I project, workshops for school-aged children were organized under the guidance of Međimurje Nature - the Public Institution for Nature Protection. The workshops included 3rd and 4th-grade students from the Prelog and Draškovec primary schools. During these workshops, children were introduced to the importance of trees and the conservation of biological diversity. In the workshop titled The Value of a Tree, students, through play and exploration, gained insights into the many benefits a tree provides throughout its life cycle-from germination to death-including its most important role for human life: the production of oxygen. The value of a tree does not end with its death, as it becomes a source of food, medicine, and building material. In this way, students come to understand the importance of city parks, as well as forest ecosystems in general, for the survival of humankind. Through the workshop Our Wild Neighbors, students learned about many inhabitants of city parks, including various bird species, hedgehogs, squirrels, stag beetles, and more, thereby experiencing parks as small oases of biodiversity. The goal of these workshops was to encourage children, through new knowledge and experiences, to actively engage in nature conservation.

## Q: The first RE-USE Center in Croatia was established in Prelog. After eight years of operation, how do you assess its importance?

A: Today, we live in a consumer society that generates increasing amounts of waste every day, much of which ends up in the environment or at landfill sites, which are among the largest sources of environmental pollution. Landfilling should be the final step in proper waste management; however, in Croatia, it is unfortunately very often the first and most prevalent method of waste treatment. A major problem is bulky waste, such as furniture, footwear, and clothing, as well as consumer goods (household items, books, toys, children's, and sports equipment), which are discarded and end up in landfills. A large portion of these items is still usable but requires repair, refurbishment, or renewal, after which they can be reused. A facility that collects, receives, and restores such products is called a CPU (Center for Re-Use). Our CPU has been operating since 2017 and consists of a workshop-storage area and an exhibition section. It is important to note that we cooperate with companies and associations such as Naš Izvor, which specializes in processing waste leather, and Humana Nova, which focuses on processing waste textiles.

## Q: Prelog is a leader in sustainable waste management in Croatia and beyond. Which practices would you highlight as an example for other cities?

A: I must once again express my gratitude to everyone involved in our waste management system, as every component plays a vital role. This includes our citizens, the local self-government units participating in our system, and the employees of the municipal utility company Pre-kom d.o.o. Prelog.

Prelog, along with Mursko Središće, Buzet, Osijek, Slavonski Brod, Krk, Ludbreg, Koprivnica, Grubišno Polje, Križevci, Đurđevac, Varaždin, and Virovitica, are the only 13 cities in Croatia that managed to exceed a 50 percent rate of separately collected waste last year. Prelog remains the most advanced among them, having achieved a 67.8 percent rate in the previous year.

## Q: The City of Prelog has an Action Plan for Sustainable Energy Development and a SEAP. What do these plans envisage in brief?

A: These plans were adopted back in 2020. Through the implementation of the ENES-CE project, we encouraged citizens to cooperate in the evaluation of the SEAP (Sustainable Energy Action Plan) and the development of the SECAP (Sustainable Energy and Climate Action Plan) for the City of Prelog, and we also initiated the establishment of a citizen energy association in Prelog. The main objective of the ENES-CE project - Enhancing the capacity of public institutions to plan and implement local energy strategies and plans in cooperation with citizens - is to actively involve citizens in planning processes and the preparation of planning and strategic documents related to the energy sector. In this way, the project contributes to sustainable regional development by establishing citizen energy groups that provide support

## As early as last year, we launched a Public Call for co-financing the preparation of the main design documentation for residential solar power plants







to local self-government units (following a bottom-up principle) in the planning and subsequent implementation of energy strategies and plans.

#### Q: How is the development of the Green Urban Renewal Strategy for Prelog through 2035 progressing?

A: The Strategy has recently been adopted by the City Council of Prelog and represents a fundamental document that will guide the city's future development toward a more sustainable, greener, and socially responsible environment. Through

its strategic objectives—establishing green infrastructure, encouraging circular-economy projects, integrating sustainability into the City's planning documents, educating the public, and building high-quality databases—the Strategy will help create a more functional urban space and improve the everyday lives of our fellow citizens. The Green Urban Renewal Strategy of the City of Prelog represents a medium-term development vision for the period from 2025 to 2035. It provides guidelines for developing green infrastructure, integrating nature-based solutions (NBS), improving energy efficiency, and introducing principles of circular management of space and buildings. Special emphasis is placed on climate change adaptation and strengthening resilience to risks, while simultaneously encouraging sustainable economic development through innovation and investment.

#### Q: How does the City plan to motivate residents to switch to renewable energy sources and increase energy efficiency in their homes?

A: As early as last year, we launched a Public Call for co-financing the preparation of the main design documentation for residential solar power plants. The subject of this public call is the allocation of non-refundable funds to co-finance the development of the main electrical design for solar power plants intended for electricity generation for self-consumption in households. The call aims to increase the use of renewable energy sources in households within the territory of the City of Prelog, strengthen household resilience to market price fluctuations, and reduce greenhouse gas emissions. Through this call, the City ensures the implementation of the Sustainable Energy and Climate Action Plan (SECAP) of the City of Prelog, specifically Measure No. 12 - the installation of photovoltaic systems (up to 10 kW) on the roofs of houses and residential buildings. We also encourage our business community. For the past two years, we have been awarding the Greenest Company prize. This award is granted to one entrepreneur in recognition of outstanding achievements and contributions to sustainable development and environmental and nature protection within the territory of the City of Prelog. The City of Prelog is truly a frontrunner not only in waste management but is also steadily becoming a leader in renewable energy sources.

Interview by Jasna Dragojević



## FIVE YEARS OF SIEMENS ENERGY SERBIA: SHAPING THE ENERGY FUTURE OF THE REGION

ive years after Siemens Energy became an independent company, this global energy leader has grown into one of the key drivers of energy transition. In Serbia, Siemens Energy has maintained its reputation as a trusted partner to the power sector and process industry, while also becoming a center of technical expertise for Europe, the Middle East, and Africa. We spoke with Petar Šainović, Managing Director of Siemens Energy Serbia, about the achievements so far, the role of the local team, and what the future holds.

#### Q: Siemens Energy is globally marking five years of independent operations. How would you describe that journey?

A: For the energy sector, five years is a very short period. Yet for us, it has been a time of major challenges and profound transformation. When Siemens Energy emerged as a standalone company in 2020, many wondered if this was merely an administrative change. It soon became clear, however, that it was

Over these five years, we have come a long way. Financially, we have grown more than threefold. Our workforce has increased nearly five times, and we now employ around 230 people – most of them engineers

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a strategic move – one that enabled faster decision-making, a sharper focus on the energy business, and, most importantly, accelerated the development of new technologies. The challenges, particularly in the wind business, made us stronger, while the evolution of the energy market fueled growth beyond expectations – both in financial performance and in workforce size.

What we are most proud of is the qualitative shift. This is primarily reflected in our corporate culture – a company that truly lives by the famous saying – *Culture eats strategy for breakfast*. It is built on open and direct communication, accountability, integrity, trust, and a shared commitment to common goals. I

Balkans. However, operating in a domestic market - which, in terms of European or global energy, is quite small - forced us to be flexible and innovative. Rarely did we have the chance to work on similar projects twice; almost every time, we were doing things for the first time. A legendary quote from one of our colleagues sums it up: We're the best at what we do for the first time. That was the only way to survive, given that our business revolves around complex projects. Only a small portion relates to product sales. Such an approach and the successes we achieved earned us recognition at the European and even global level. Today, our engineers work on projects across Europe, the Middle East, and Africa. Our



Petar Šainović

Managing Director of Siemens Energy
Serbia



firmly believe that such culture is the key reason why the company's value has quadrupled since 2020.

#### Q: Today, Siemens Energy Serbia plays a significant role in global operations. How has the organization evolved in that regard?

A: Just a little over five years ago, at the time of the spin-off from Siemens, we employed slightly more than 50 people. Our focus was primarily on the Serbian market, with occasional projects in the Western cybersecurity experts safeguard the company's global cyber resilience, while our corporate security team ensures the protection of people, assets, and supports processes worldwide.

Over these five years, we have come a long way. Financially, we have grown more than threefold. Our workforce has increased nearly five times, and we now employ around 230 people – most of them engineers.

Quality matters more than quantity. Today, 80 percent of our employees are engaged in international projects. Not only do our people participate in global projects, but as an organization, we are responsible for the entire process – from preparing technical solutions and proposals to project management, site organization, installation supervision, and commissioning. Our concept is not based on so-called body leasing or low engineering-hour rates, but on knowledge, accountability, and dedication. Moreover, our engineers do not spend extended periods on foreign sites, as most of the work is done



I believe the next five years will be marked by even more dynamic growth in energy investments, a significant increase in headcount, and further digitalization of operations

from Belgrade. This allows them to stay close to their families while contributing to major international projects and collaborating with people from all over the world.

Five years ago, we could not have imagined such a scenario in Serbia. On top of that, seven of our colleagues – still based in Belgradenow hold international leadership positions. This is certainly driven by our global priority of inclusion and diversity, but perhaps even more by the commitment of the local team, which could not go unnoticed.

#### Q: Can you share the secret of your success with our readers?

A: There is no secret. It's simple. As I mentioned earlier, the key lies in business culture. We build the desired culture through communication. Communication must be open, direct, and, of course, timely.

If something isn't working as it should, it's important to communicate that clearly and promptly:

Your results are not meeting expectations. Let's find a solution together. People accept that. They

recognize honesty and usually make an effort to change.

Perhaps even more important is clearly communicating the common goal. Identifying with that goal is a powerful tool. If you don't believe in the goals of the company you work for, my advice is to change your environment.

When the majority embraces a shared goal, there's a strong chance employees will act as if it were their own company. Then everything becomes easier – and not just easier, but enjoyable. If we spend most of our waking hours at work, let's make sure those hours are filled with purpose and a positive atmosphere.

#### Q: How do you see the next five years for Siemens Energy Serbia?

A: In today's energy sector, unpredictability is the only constant. Just a few years ago, the current surge in global market growth was unimaginable. What we can be sure of: if we manage to preserve our culture amid rapid workforce expansion, we've truly succeeded.

Back in 2021, I jokingly told employees that our goal was to reach 1,000 people by 2030. The comments were that it was unrealistic. My response was: Who needs realistic goals? What happens if we achieve them? Do we just go home? At that time, no one could have imagined that by 2025, we would have 230 employees and be working on the projects we are doing today.

I believe the next five years will be marked by even more dynamic growth in energy investments, a significant increase in headcount, and further digitalization of operations. I am confident this team is capable of great achievements and ready to meet market demands. An incredibly exciting period lies ahead—something new and interesting every day. That's over 1,200 fascinating workdays in five years.

Interview by Milena Maglovski

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



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## HOW CBAM WILL TRANSFORM THE SERBIAN ECONOMY

s of 1 January 2026, Serbia enters a new economic reality: the full implementation of CBAM (the Carbon Border Adjustment Mechanism) will not only pose a regulatory challenge but also test the domestic economy's readiness for an accelerated energy transition. Although the European Union designed this mechanism to ensure fair competition and prevent carbon leakage, the consequences for countries whose economies lag in decarbonization could be significant. Serbia is no exception.

How will the new levies affect exporters of steel, aluminum, fertilizers, and cement? Is EPS about to face the most challenging period in its history? How realistic is it to retain part of the revenue within Serbia through a domestic carbon tax—and does the state have a clear vision for financing an energy transition worth tens of billions of euros?

We discussed these questions with Slobodan Minić, Special Advisor to the Fiscal Council of Serbia, who warns that the impact of CBAM will not be the same across sectors, and that Serbia no longer has the luxury of postponing essential reform decisions.

By far the largest share of the estimated cost—some 75-80 percent—will fall on the iron and steel sector, due to the high volume of exports to the EU and the sector's relatively high emission intensity

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Q: What impact will the introduction of CBAM on 1 January 2026 have on the Serbian economy, particularly on directly affected companies in the iron and steel, cement, aluminum, and fertilizer sectors?

A: When the European Commission first announced the Carbon Border Adjustment Mechanism (CBAM) in late 2019, there was a justified concern that the Serbian economy could be disproportionately affected. The reasons were clear: the European Union is our most important market, accounting for around two-thirds of Serbia's exports. At the same time, our domestic economy objectively lags behind European competitors in terms of decarbonization. To illustrate, Serbia emits 95 percent more greenhouse gases per unit of GDP

hand, the EU is gradually phasing out free allowances for its own producers in these sectors (which proportionally increases CBAM obligations for importers), and on the other hand, the market price of carbon is expected to continue rising in the coming years.

Looking at individual sectors, the impact of CBAM is uneven and depends on their specific characteristics. By far the largest share of the estimated cost—some 75–80 percent—will fall on the iron and steel sector, due to the high volume of exports to the EU and the sector's relatively high emission intensity. By contrast, the cement sector, although it also has higher emissions compared to European companies, is not expected to face significant



Slobodan Minić Special Advisor to the Fiscal Council of Serbia



than the Central and Eastern European average.

However, a detailed analysis shows that the effect of CBAM—at least in its current form—will not be catastrophic for the economy as a whole, although the impact on the directly affected sectors could be significant. According to the Fiscal Council's estimates, CBAM will increase the cost of Serbian exports by around EUR 45 million in 2026, and this burden could grow to EUR 150–200 million annually by 2030. The reasons for this increase are twofold: on one

business consequences. Cement is a low-value, high-weight product with high transport costs, meaning most of its production is sold on local and regional markets rather than exported to the EU.

Q: How will this specifically affect the competitiveness of Serbian companies in these sectors, and is there a risk that some of our producers may lose access to the EU market?

A: CBAM undoubtedly introduces significant additional costs that weaken the competitiveness of Serbian companies in the affected sectors, but this is a risk that appears manageable. Although emissions from our producers in these industries are higher than those of their European counterparts, the difference is not dramatic, averaging 15-20 percent. Consequently, CBAM will inevitably lead to higher prices for our products on the European market in the medium term: we estimate that aluminum prices may increase by 3-4 percent. In comparison, fertilizers and steel prices may increase by around 10 percent. In contrast, cement prices could rise by as much as 40 percent.

However, it is crucial to consider the broader context: production costs will not rise only for us. European producers of CBAM goods will also face higher costs starting in 2026, as the EU gradually phases out free emission allowances—a mechanism that, until now, has helped shield them from competitive disadvantages. In other words, market conditions are changing for all players. When this is taken into account, the net loss of competitiveness for Serbian companies should remain moderate—between one and five



percentage points, depending on the sector.

I believe this is not an insurmountable gap, provided domestic companies intensify investments in new technologies and in emission reductions in the coming years.

Q: The power sector has been identified as the most vulnerable to CBAM. How much revenue could EPS realistically lose due to reduced exports, and is there any scenario in which electricity exports to the EU remain profitable?

A: That's correct—the power sector, and EPS as the dominant producer, is truly the elephant in the room when discussing the effects of CBAM. I mentioned earlier that emission differences in industry are moderate, but in electricity production, they are dramatic. Because Serbia relies predominantly on lignite, emissions in this sector are three to four times higher than the EU average. Simply put, Serbia has not followed the EU trend

of rapid power-sector decarbonization over the past two decades, and the result of that inertia is an exceptionally poor starting position ahead of CBAM's full implementation.

An additional problem is that electricity has no discounts and no transition period, because the EU abolished free allowances in this sector long ago. As a result, the full carbon price will be charged starting in 2026.

In practice, this means that every megawatt-hour exported to the EU would incur an additional levy of around EUR 60. With such a burden, electricity exports become economically unviable, and EPS becomes entirely uncompetitive in the European market. Fiscal Council analyses show that, due to the loss of export revenue, EPS could lose EUR 200–300 million annually by 2030. This is a huge amount of money that has so far contributed significantly to the company's performance—and

it may now be missing precisely at a time when massive investments in renewable energy are urgently needed.

Although some voices within the EU are calling for postponing the application of CBAM to electricity to resolve certain technical issues and uncertainties, such a delay would be only a temporary reprieve. The long-term solution for Serbia likely lies in active negotiations with the EU, aimed at establishing a clearly defined roadmap for the domestic power sector.

In the ideal scenario, this would include meeting the conditions for a temporary exemption for electricity exports until 2030, followed by a gradual integration into the EU Emissions Trading System (EU ETS) under reasonable terms. Anything else carries the risk of Serbia becoming an isolated energy island in Europe—a situation that, according to our assessments, benefits no one.



Q: Your report states that introducing a domestic carbon tax would allow revenue to remain in Serbia. How does the analyzed model—EUR 4 per ton of CO<sub>2</sub> in 2027, rising to EUR 40 in 2030—compare to the government's proposed law on greenhouse gas emissions taxation?

A: One of the core ideas behind CBAM is that if the price for emitting greenhouse gases must be paid, it is better for that money to remain in the country than to flow into the EU budget. In other words, the mechanism is structured so that if the carbon price has already been paid somewhere, that amount is deducted from the CBAM obligation. The Fiscal Council examined several options for introducing a domestic carbon pricing mechanism and concluded that, for Serbia at this point, a carbon tax is a better solution than an administratively complex emissions trading system.

We also analyzed the scenario outlined in the National Energy and Climate Plan, which proposed introducing a tax of EUR 4 per ton of  ${\rm CO_2}$  in 2027, rising to EUR 40 per ton in 2030. If such a model were applied to industrial CBAM sectors (thus excluding electricity), it would allow Serbia to retain around EUR 220 million annually in the national budget by 2030.

However, the Draft Law on Greenhouse Gas Emissions Taxation, which recently entered public consultation, is considerably less ambitious. Although the tax rate remains EUR 4 per ton, the tax base has been drastically narrowed—the tax would not apply to total emissions, but only to emissions above a certain technological minimum (the so-called reference values). The impression is that this is a painless starting point: the new tax will not impose a significant burden on industry, but it will also not generate significant revenue, nor

will it provide strong incentives for companies to reduce their emissions.

It is clear to everyone that the key parameters of the tax will have to change in the coming period, and the major shortcoming is that the government has not yet indicated in which direction those changes will go. Companies do not make investment decisions for today or tomorrow, but for the next ten years—and it is therefore crucial that they know what to expect beyond this first, modest step.

#### Q: What, in your opinion, are the key reform measures the state must implement to accelerate the energy transition, and how can fiscal policy become a stronger tool in that process?

A: Introducing a carbon price is an important first step, but the other side of the coin is—how will that money be spent? Revenue from this tax should primarily be used for industrial decarbonization and to mitigate the impact of the energy transition on households that may face higher energy costs. Still, we must be realistic: the revenue from the carbon tax proposed by the government, and even from the model analyzed by the Fiscal Council, is fiscally only a drop in the ocean compared to total needs. For example, the National Energy and Climate Plan estimates that Serbia will need up to EUR 30 billion for decarbonization and the energy transition by 2030. This requires a complete reassessment of public finance priorities—not merely reliance on new taxes.

Unfortunately, the proposed 2026 budget currently under consideration does not indicate such a shift. Allocations for environmental protection, climate action, and energy efficiency remain at the same—or even lower—levels compared to 2025. If we want to embark on a serious green transition, fiscal policy will need to play a more active role on both the revenue and expenditure sides of the budget.

Interview by Milena Maglovski





# THE GREEN TRANSITION CANNOT BE PUT ON HOLD — ERSTE BANK LAUNCHES A PIONEERING ESG MODEL IN SERBIA

tamoment when the world is once again shifting its focus from sustainability to rapid profit, Erste Bank in Serbia is doing the opposite precisely: we remain the most significant financial actor in investments in renewable energy sources while simultaneously introducing a new model of active ESG mentorship for Serbian companies—using our

internal resources, without engaging external consultants.

While the global landscape in recent months has increasingly downplayed the importance of ESG standards and attempted to redirect attention solely to profit and short-term goals—often neglecting long-term ones—at Erste Bank, we choose a different path. We believe that capital holds its most significant value

when it improves reality—when it drives us toward a sustainable future. We do not wait for these changes to happen on their own—we initiate them.

Our sustainable finance strategy is rooted in the belief that the financial sector plays a key role in accelerating the transition to a low-carbon economy. As part of the Erste Group, we are fully aligned with European

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targets and decarbonization standards, but what we are doing in the domestic market goes beyond the traditional banking approach of simply providing financial resources.

This means we do not observe change from the sidelines—we actively build partnerships with our clients, especially with small and medium-sized enterprises, which bear the greatest burden of shifting to sustainable operations. Recognizing their need for concrete support, we launched a pioneering advisory decarbonization process conducted entirely with our internal expertise.

To begin, we selected 13 clients from various industries across Serbia, held a joint meeting, developed an ESG questionnaire, and conducted a comprehensive analysis for each client. Based on this work, we created personalized ESG roadmaps with

Our engagement, however, does not end there. In cooperation with the UN Global Compact in Serbia, the Serbian Chamber of Commerce, and other participants from various sectors, we took part in a series of autumn educational events in Negotin and Novi Sad. By the end of the year, another session will be held in Čačak, and at the beginning of next year, we plan to visit Valjevo and Šabac. At these workshops, we brought together small and medium-sized enterprises to discuss ESG principles and sustainable business practices—why they matter for them, and the role banks play in the green transition through sustainable

consequences—from pressure on food prices to jeopardized electricity production—it is clear that the green transition is not a trend but a necessity. Any further delay will come at a much higher cost.

In Europe, it is already estimated that extreme weather events will result in at least EUR 43 billion in direct losses this year. Serbia, given its economic structure and energy challenges, cannot afford to fall behind, especially as it ranks first in Europe among countries most affected by the consequences of climate change.

This is why Erste Bank is leading the transition—not only with capital,

## Our sustainable finance strategy is rooted in the belief that the financial sector plays a key role in accelerating the transition to a low-carbon economy



clearly defined goals and guidelines, which we will further refine in the coming months through on-site visits. Monitoring of results is planned for 2026.

This approach is intensive, demanding, and fundamentally developmental for us. Still, it strengthens our internal knowledge and raises the standards of the banking sector—not only in Serbia but across the region.

finance and educational guidance. By emphasizing the importance of these topics and the benefits of implementing such principles, we demonstrated that the transition cannot be carried out individually—it requires cooperation among all stakeholders, shared learning, and synergy.

As the world faces increasingly frequent climate extremes and their already measurable economic but with knowledge, people, dialogue, and hands-on work with clients. This is banking that creates value through action and transformation, not by observing from the sidelines.

The path we have chosen is more demanding—but it is the only one that makes sense at this moment.

Katarina Majić, Senior ESG Specialist, Erste Bank Serbia

Sanja Prvulović, Medior ESG Specialist, Erste Bank Serbia



# HOW THE RS FUND IS BUILDING THE GREEN TRANSITION: PLANS, RESULTS, AND CHALLENGES

he Environmental Protection Fund of the Republic of Srpska plays an important role in financing and promoting projects that contribute to nature protection and the improvement of environmental standards. Through various funding programs, the Fund supports local communities, businesses, and public institutions in implementing measures that foster sustainable development and a higher quality of life. To discuss the projects currently being

implemented by the Fund, its plans to support local communities and the private sector in the coming year, as well as other plans for 2026, we spoke with Denis Stevanović, Director of the Fund.

Q: How would you assess the Fund's work to date in improving energy efficiency and environmental protection in the Republic of Srpska?

A: I believe that the work of the Environmental Protection and Energy Efficiency Fund of the Republic of Srpska

Fund will co-finance projects in the fields of environmental protection and energy efficiency through our public calls, as well as through decisions of the Director and decisions of the Government of the Republic of Srpska

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in the previous period has been truly successful, as we have implemented a wide range of projects across the Republic of Srpska. The Fund has co-financed projects primarily for public utility companies in the field of environmental protection, focusing on strengthening their capacities. At the same time, local governments have been our constant partners, and we have co-financed numerous projects at the municipal level.

On the other hand, a certain level of support was also provided to the business sector and private individuals. In cooperation with UNDP and the EBRD, we have rehabilitated facilities and implemented energy-efficiency measures across a large number of buildings in the Republic

business sector, in the recent period, we have established a system for the management of packaging waste. As a result, we no longer face packaging waste issues across the territory of the Republic of Srpska. This was achieved, of course, through the co-financing of projects—again primarily involving public utility companies—and through the introduction of so-called operators into the system, which I would highlight as a particularly significant achievement.

Q: Do you plan to introduce new support programs for municipalities, public institutions, or the private sector?

A: As regards the coming year, the Fund will continue its regular activities. We will co-finance projects in



Denis Stevanović Director of the Environmental Protection Fund of the Republic of Srpska



In addition to supporting public utility companies, local governments, private individuals, and the business sector, in the recent period, we have established a system for the management of packaging waste

of Srpska—primarily schools, kindergartens, and public healthcare facilities. Overall, I believe that the Fund has proven itself to be a significant institution of the Government of the Republic of Srpska, that it has justified its role, and that the results of our work are clearly measurable.

Q: What are the key projects the Fund has implemented in the recent period?
A: In addition to supporting public utility companies, local governments, private individuals, and the



the fields of environmental protection and energy efficiency through our public calls, as well as through decisions of the Director and decisions of the Government of the Republic of Srpska. One new initiative I can announce is that next year, we plan to address the situation on the ground regarding end-of-life vehicle tires. This is one of the specific waste categories, and we plan to launch a public call for an operator that will collect and properly manage all tires currently present across the Republic of Srpska, which is highly important for environmental protection.

In addition, we will maintain a permanent public call in the areas of environmental protection and energy efficiency aimed at sole proprietors, associations, local governments, and others, as well as a major call for environmental protection projects co-financed with public utility companies and local authorities—such as the procurement of municipal equipment, improvements in drinking water supply capacities, and similar activities. One such public call has recently been completed, and we expect the results and the allocation of funds shortly. We also have an ongoing call targeting micro, small, and medium-sized enterprises for energy efficiency measures. These are some of the calls we will most likely continue to implement next year as well.

## Q: When can citizens expect subsidies for solar power plants and energy-efficient renovation of homes?

A: In 2023 and 2024, we launched public calls under the so-called European Union Energy Support Package for the Western Balkans, as a form of assistance to households during the energy crisis caused by the war in Ukraine. At that time, private individuals were able to apply for grants of up to BAM 5,000 if they implemented certain energy efficiency measures in their houses or apartments. These measures included façade thermal

insulation, heating system improvements, the installation of solar panels on residential buildings, roof and ceiling renovation, and similar works.

We did not launch such a call in 2025, as the European Commission program had ended, and the Fund did not have the capacity to support citizens at that scale using its own resources. However, we are striving

Government decisions are published in the Official Gazette, and in such cases, the Fund merely implements the Government's decisions.

As for public calls and decisions of the Director, beneficiaries are selected after a public call is published and applicants submit their project proposals, following which an evaluation committee issues a recommendation. We apply clearly defined



to identify solutions for next year, as this public call proved to be very attractive and of great interest. We want to support citizens and ensure that everyone can benefit from our work. One possible approach could be through revolving financing schemes with banks or similar mechanisms, since it is not realistic for the Fund to co-finance all households wishing to insulate façades, replace windows, or carry out other home improvements solely from its own funds.

## Q: What criteria do you use to select projects for funding, and how do you ensure transparency in the process?

A: The Fund co-finances projects through three channels. These include so-called small projects approved by the Director, projects financed through public calls, and projects approved by the Government of the Republic of Srpska.







criteria and scoring mechanisms, including the level of project readiness, the degree of positive environmental impact and greenhouse gas emission reductions, the quality of the proposed technical and technological solution, the level of environmental risk, as well as the financial, technical, and human resource capacity of the applicant.

It is important to note that the Fund co-finances projects, so each beneficiary must provide a specified level of co-financing. Public institutions may be financed up to 80 percent of the total project value, while all other beneficiaries may receive up to 70 percent. We also finance projects at 50 percent or less.

Additional criteria include  ${\rm CO_2}$  emission reductions, the implementation of energy efficiency measures, and the payback period of the

investment. For example, in energy efficiency projects, it is essential to know the baseline level of energy consumption and what the project will deliver in terms of savings in the coming period—these are measurable indicators.

That said, this area still requires some further improvement. Other criteria include financial savings, the investment payback period when using renewable energy sources, the availability of detailed technical documentation, and similar factors. All of these criteria are defined in our internal regulations or in acts adopted by the Government of the Republic of Srpska. Therefore, I believe the Fund's funding allocation process is truly transparent, and to date, we have not faced major issues in implementing these projects. In general, our beneficiaries are satisfied, and the number of appeals is minimal, thanks to the functional system we have established.

## Q: What role does the Fund play in helping the Republic of Srpska adapt to climate change?

A: In addition to the competent Ministry of Spatial Planning, Construction, and Ecology, the Fund also plays a key role in the process of adapting the Republic of Srpska to climate change. As a mechanism and instrument of the Government of the Republic of Srpska for co-financing energy efficiency, green transition, and green economy projects, we support both the business and public sectors in adapting to climate change and to the requirements of the European Union, such as the implementation of CBAM.

We currently have an open public call for micro, small, and medium-sized enterprises that can help businesses demonstrate that they produce energy for their own needs using renewable energy sources. Companies can therefore apply for funding for photovoltaic power

plants and similar investments. The total value of this public call is BAM 1,820,000. The maximum grant per company is BAM 45,000, or up to 45 percent of the investment value. If the company director is a woman, the maximum amount increases to BAM 50,000, or 50 percent of the investment value.

This represents direct support to the business sector in the process of the so-called green transition. Through this public call, we are co-financing between 40 and 45 projects on a first-come, first-served basis, provided that all required documentation is complete. This is also a transparent process, as we will compile a ranking list of beneficiaries. After contracts are signed, we conduct on-site inspections to verify baseline conditions, and once all measures have been implemented, we conduct a final site visit before disbursing the funds.

#### Q: How is the Fund preparing to access funding from international sources?

A: In the previous period, the Fund implemented significant EU funding under the IPA program. The EU Energy Support Package for the Republic of Srpska was implemented, providing assistance to households and micro, small, and medium-sized enterprises. Currently, the implementation of funding for energy efficiency projects from the Green Climate Fund (GCF) is also underway, co-financed by the EBRD.

To simplify, over the coming period, we plan to implement energy-efficiency measures in 20 public buildings across the Republic of Srpska. At the same time, we continuously monitor opportunities to apply for new funding sources. We have developed strong human resource capacities and established a dedicated project implementation unit, which means we are well prepared to respond to all challenges and to successfully implement complex projects.

Interview by Jasna Dragojević



## CORPORATE SOCIAL RESPONSIBILITY: HOW MAXBET BUILDS SOCIAL CAPITAL

t a time when ESG standards are increasingly evaluated by their real impact on the community rather than declarative promises, MaxBet approaches social responsibility as a long-term strategy rather than a season of campaigns. The company's integration into Flutter International has further professionalized and expanded this framework, resulting in the systematic development of social capital through investments in healthcare, local community stability, environmental projects, and employee development.

"When I speak about social capital, I am referring to the decision to be present where support is truly needed—in hospitals, schools, forests, and on sports fields," says Savo Bakmaz, General Manager of MaxBet. "Everything we do, from blood donation to developing our people, is part of the same commitment—to ensure that our business leaves a legacy greater than profit."

This approach is embodied in the "Life Is Blood" initiative, which has grown from a local idea into one of the largest voluntary blood donation programs in the region. To date, 84 drives have been organized, 11,106 units of

blood have been collected, and support has been provided in saving more than 33,000 lives. In 2025, the campaign expanded into new communities.

MaxBet's dedication to health continues through support for organizations working with the most vulnerable groups, as well as through internal initiatives such as the annual MaxMovember campaign, focused on prevention, health awareness, and improving the quality of life for men. One of the central activities of this year's campaign was the workshop "Men in Focus," designed to open a conversation about topics often insufficiently discussed yet

Photographs: MaxBet

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essential to everyday physical and mental well-being.

In October 2025, MaxBet also supported the 10th BELhospice humanitarian tennis tournament, "Game for Dignity," contributing to the only licensed program of free palliative care and psychological support in Serbia. In the same spirit, participation in UNICEF's Fair Play 3x3 basketball tournament-where 1,440,000 dinars were raised for improving mental health services for children and youth—demonstrates that sport can be one of the fastest channels through which social impact becomes visible. Responsible gaming is central to MaxBet's business philosophy and is part of the global Play Well program, developed by Flutter International. It the Day Care Center for people with developmental disabilities, part of the "Most" Center, providing users with a more accessible and functional space for everyday activities. In Nikšić and Budva, specialized protective equipment was donated to local rescue and emergency services, ensuring that firefighters and first responders have better tools to handle fires and other urgent situations.

The environmental segment of the program is equally strong. To mark Earth Day, MaxBet employees took part in one of the company's largest volunteer reforestation actions, during which, through cooperation with the public forestry enterprise Srbijašume, 6,000 seedlings were planted: black pine near Kraljevo,



Savo Bakmaz General Manager of MaxBet



is a model that combines behavioral monitoring, early detection of risky changes, and self-control tools such as spending limits, timeouts, and self-exclusion – all aimed at ensuring a game that remains within the bounds of fun without compromising personal or family stability. In the gaming industry, this is one of the most important tests of a business model's maturity.

MaxBet also strives to create social impact through projects that directly improve living conditions in the communities where it operates. In Zrenjanin, the company financed the renovation of the outdoor area of spruce on Mali Jastrebac, and pedunculate oak in the vicinity of Belgrade. Athletes from FC Partizan and FC Vojvodina joined the initiative, symbolically linking care for nature with care for the community.

"Each seedling is a symbol of our dedication to the people who build our company, but also of our responsibility toward the world we live in," said Bakmaz.

At the foundation of every sustainable system are the people who build it. That is why the company places special emphasis on its employees—from participation in races such as the Serbia Business Run and

the Skopje Marathon, which promote balance and well-being, to development programs like the four-semester Max Talent District Academy for high-potential employees. Alongside it operates the MaxElevate program for developing managerial skills and the internal podcast MaxConnect, where employees openly discuss the challenges of modern work, balance, and burnout prevention.

Viewed as a whole, it becomes clear that MaxBet does not build social responsibility through campaigns, but through a culture—a network of interconnected activities that build upon one another, expand, and create long-term impact.

"Our goal is not to be remembered only for our results, but for where we stood when it mattered," Bakmaz concludes. "If communities see us as a reliable partner and a good neighbor, then the social capital we build has real value—not just a pleasant phrase in reports."

This approach to CSR demonstrates that the company is not reacting to trends but building a business model in which growth and responsibility are part of the same equation.

Prepared by Milena Maglovski



## ZG GREEN ENERGY FAIR 2025 BROUGHT TOGETHER GLOBAL LEADERS IN GREEN ENERGY

he ZG Green Energy Fair
2025, the region's largest
energy fair, was held at the
end of October in Zagreb.
This internationally oriented event
brought together leading domestic
and international companies, experts,
and institutions from the fields of renewable energy sources, green mobility, and sustainable technologies.

In addition to the exhibition program, the fair featured a conference segment focused on fostering energy transition, innovation, and cooperation within the green energy sector,

with a strong emphasis placed on education. In collaboration with the student association EESTEC, a hackathon was held, while the FS Alpe Adria and MUZZA associations organized workshops and STEM activities for children.

The Green Energy Fair was organized by the Croatian technology company AleDo TECH, with Renewable Energy Sources of Croatia (OIEH) as the program partner and EV Clinic as the e-mobility partner.

Domagoj Badanjak, Director of AleDo Tech and the fair's organizer,

told Energy Portal Magazine that they recognized a lack of exhibition—type events in Croatia that bring together key sector stakeholders in one place, with a strong focus on the B2B segment and content appealing to the broader public. He also highlighted that this is the largest event of its kind organized in the area covering Slovenia, Croatia, Serbia, Bosnia and Herzegovina, and Montenegro.

"Preparations for the event began a little less than two years before the actual date—from searching for

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the ideal venue, which ultimately led us to choose the magnificent Arena Zagreb, to securing agreements with partners and launching the first sales activities. In parallel with these activities, we actively worked on promoting the event through our partner network, social media, digital platforms, guest appearances on various television programs, as well as through articles in print and online media. As the list of exhibitors grew, we gradually shaped the conference program, aiming to align topics with exhibitors and address the key issues, challenges, and opportunities in each sector. Along the way, we received strong support from various institutions—from the Croatian Chamber of Economy and the Croatian Chamber of Electrical Engineers to the Ministry of the Sea, Transport and Infrastructure, the Ministry of Physical Planning, Construction and State Assets, as well as support from HEP, HTZ, JANAF, and others," Badanjak told us.

He emphasized that they are pleased with all aspects of the premiere edition of the ZG Green Energy Fair, noting that the main feedback from the vast majority of exhibitors was their satisfaction with the quality of organization and the number and relevance of the business contacts they established.

"And the visitors were delighted-both those coming directly from the renewable energy and e-mobility sectors, and the general public. We got the impression that many were pleasantly surprised by the diversity of exhibitors-from more than 20 different electric vehicle brands and manufacturers and distributors of accompanying equipment to the presence of numerous key players in the field of solar power plants and battery systems, as well as representatives of other segments of the renewable energy sector. Additionally, we were thrilled with the attendance at the conference program—on several occasions, extra chairs were needed, which clearly shows that the program resonated well," Badanjak said.

Such an event could not be missed by companies that have been actively shaping the development of the energy sector in the region for over a decade. This is why MT-KOMEX and MT-KOMEX BH, together with Aiko Solar, presented the latest solutions they apply in the design and construction of solar power plants at the fair. This exhibition drew significant visitor attention and reaffirmed their reputation as leaders in the field of solar energy. At the same time, the fair offered numerous opportunities for meetings with business partners

from across Europe and the world, further strengthening the companies' regional and international presence.

In the conference segment of the fair, Nikola Grubor, Deputy Director at MT-KOMEX, participated in the panel "Future and Opportunities of PV in the Region," where it was emphasized that the development of solar energy in the region is undergoing a phase of accelerated transformation—but is also accompanied by numerous challenges.

"While the legal framework has been established, the bylaws are changing almost every month, which complicates project implementation," said Grubor.

Infrastructure, although often perceived as an obstacle, is in his view one of the smaller challenges. Despite the decline in component prices, projects today struggle to fit within the current electricity price range of EUR 50 to 60 per megawatt-hour, which, Grubor adds, could become a new concern for investors. He also warned about the differing approaches of local communities to solar projects, which vary significantly depending on whether a country is part of the FU

The fair also brought together global industry leaders such as Krannich Solar, Huawei, BYD, Sungrow, Schneider Electric, and Fronius, as well as domestic pioneers including RENS, Ionian, Larsoon, AleDo TECH, Adriateh, and HOBACA.

When it comes to organizing next year's event, the organizers say they cannot yet confirm its continuation. Still, due to the extremely high interest from exhibitors who participated in the premiere edition—as well as from many who were unable to take part this year—it is highly likely that the ZG Green Energy Fair will also take place in 2026, in a similar timeframe and format, but on a higher level and with a few surprises.

Prepared by Jasna Dragojević





## LOCAL COMMUNITIES AS THE FIRST LINE OF DEFENSE FOR NATURE AND CLIMATE

WF Adria is one of the leading nature conservation organizations in the Western Balkans, dedicated to biodiversity protection, sustainable natural resource management, and strengthening community resilience to the impacts of climate change. Through science-based work, advocacy, and strong partnerships, WWF Adria

addresses the most serious environmental challenges of our time—shaping public policies, strengthening civil society capacities, and developing innovative solutions that protect both people and nature.

One of the flagship initiatives in this field is the "Safe Nature and Climate" project, designed to address the growing threats to ecosystems, biodiversity, and local communities posed by climate change and unsustainable practices. The project focuses on strengthening institutional and local foundations for action in the areas of environmental protection and climate change across the region, with financial support from the European Union.

Supporting local environmental organizations lies at the very core of effective action on the ground. These

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organizations best understand the specific environmental and social contexts of their communities and therefore play a crucial role in driving change. Through targeted funding, knowledge exchange, and partnership programs, WWF Adria strengthens their participation in public policy development, monitoring of natural resources, and the implementation of solutions tailored to local needs.

Over the past four years, a total of 41 projects have been implemented, with overall investments in civil society amounting to €500,000. The results encompass a wide range of innovative and impactful activities—from the development of new regulatory frameworks, participatory monitoring, and local nature conservation and climate action initiatives, to educational programs, large-scale awareness-raising campaigns, and initiatives that have led to concrete legal changes at the local level.

European policy framework. The results and experiences achieved so far were also presented at the third Environmental Policy Forum "Local Solutions for (Inter)national Policies," held in November this year.

The Forum brought together representatives of civil society, policymakers, climate and nature conservation experts, and numerous representatives of international institutions and organizations. The central focus was clear—strengthening local capacities and identifying sustainable, inclusive solutions that connect local initiatives with national and regional environmental protection and climate resilience policies.

Hari Osting, Acting Director of the Conservation Program at WWF Adria, highlighted the importance of local organizations as key drivers of change, whose work directly contributes to improving policies, enhancing natural resource management, and technologies to monitor environmental conditions, and established networks of organizations managing freshwater protected areas and ecological corridors. Participants also pointed to challenges, such as the inertia of certain local authorities, which often hinder the implementation of changes in the interests of nature and citizens.

The panel "Raising Public Awareness and Engaging Local Communities" focused on communication, education, and citizen involvement. Campaigns reaching more than two million people were presented, along with the development of mobile applications for reporting environmental issues and educational programs targeting young people, women, minority groups, and other vulnerable populations. It was concluded that informed and empowered communities are the key to longterm change and to building a culture of care for nature.

Within the third panel, "Local Climate Action," the focus was on concrete local responses to climate challenges—from developing local environmental protection plans and participatory models for managing climate risks to specific actions such as preventing the construction of small hydropower plants in sensitive areas. Models of sustainable agriculture and rural development aligned with the EU Rural Pact were also presented, along with studies on microplastics and initiatives linking climate change to human rights issues.

- Local organizations are the backbone of change—they understand community needs, identify risks on the ground, and develop solutions that are at the same time innovative, comprehensive, and inclusive, Osting emphasized, expressing his hope that the Forum will continue to serve for many years as a central meeting point for civil society organizations across Serbia.

Prepared by Milena Maglovski



Local initiatives from Paraćin, Užice, Novi Pazar, Pirot, Kragujevac, Kraljevo, and many other cities now benefit from renewed support for their activities, strengthening community resilience and fostering coexistence between people and nature.

Through the "Safe Nature and Climate" project, WWF Adria has built a strong bridge between local initiatives and the broader regional and strengthening community resilience to the impacts of climate change.

The first panel, "Locally Led Biodiversity Conservation," emphasized the irreplaceable role of local actors in nature protection and sustainable resource management. Initiatives were presented that aligned local policies with EU directives, developed models of sustainable forest management, used drones and modern







Nikola Grubor
Deputy Director of MT-KOMEX

umerous completed projects, technological breakthroughs, a substantial shift toward battery energy storage systems and tracker technologies, and expansion into regional markets marked 2025 as a turning point in the development of MT-KOMEX. Deputy Director Nikola Grubor speaks about the company's achievements, key innovations, plans for 2026, and future trends in the solar industry.

# Q: MT-KOMEX is certainly behind another successful year. Can we say that 2025 was the most successful year so far?

A: Without a doubt, this has been our most successful year to date—a year in which we delivered some of the most technologically complex solar projects, introduced new solutions, expanded our regional presence, and further confirmed our leading position in EPC services, prefabricated substations, and advanced solar technologies.

I would say that 2025 marks the year in which MT-KOMEX entered a new phase of development—from a strong domestic EPC partner to a company that is actively building and shaping the region's energy transition.

### Q: Which project or achievement would you highlight as the company's most significant contribution to Serbia's energy transition during 2025?

A: Throughout 2025, we implemented several projects that directly contribute to reducing  $CO_2$  emissions and increasing the energy independence of the business sector. I would particularly highlight large-scale commercial solar power plants in the industrial sector, which today represent one of the key pillars of energy efficiency for domestic manufacturers.

Our prefabricated substations—such as the Huawei Jupiter 3000 model—also deliver significant added value, enabling faster grid connection and greater reliability of renewable energy facilities. These solutions

substantially shorten project timelines and reduce the infrastructure burden for investors. The EPC approach MT-KOMEX has applied from the very beginning remains one of the key reasons investors recognize our company as a partner that delivers comprehensive, safe, and long-term, sustainable solutions.

# Q: When it comes to innovation, MT-KOMEX has traditionally been at the forefront of applying advanced solar technologies. What new solutions did the company introduce or implement in 2025?

A: Investing in innovation is a continuous process for us. This year, particular attention was drawn to the development and deployment of advanced inverters and optimizers, as well as the large-scale implementation of battery energy storage systems (BESS), which we introduced across all new projects. The integration of SCADA systems and remote monitoring platforms has become standard practice. At the same time, further improvements in prefabricated substations have further optimized the construction and grid connection process for solar power plants.

Throughout 2025, we implemented several projects that directly contribute to reducing CO<sub>2</sub> emissions and increasing the energy independence of the business sector



# Q: What are the key plans, projects, or investments that MT-KOMEX is planning for 2026?

A: In 2026, MT-KOMEX plans further growth through the construction of an even larger number of commercial solar power plants, the expansion of its BESS solutions portfolio, the strengthening of EPC and engineering teams, new investments in prefabricated solutions and energy infrastructure, as well as continued expansion into regional markets.

The coming year will be marked by intensive construction activity, new partnerships, and an even stronger position for the company in the energy sector of Southeast Europe. The solar industry is entering an accelerated phase of development in 2026. Commercial power plants, hybrid systems, battery capacities, and digitalization are becoming the norm. For MT-KOMEX, this represents both an opportunity and a responsibility—to continue introducing state-of-the-art solutions, to

One of the most significant breakthroughs in 2025 was the start of construction of large-scale solar power plants equipped with single-axis tracker systems. We expect that by the end of next year, 50 MWp of such facilities will be completed and commissioned in Vojvodina.

Tracker systems deliver a range of benefits:

- an increase in energy production of 15-25 percent compared to fixed-tilt structures,
- more uniform power generation throughout the day,
- better utilization of solar irradiation in flat terrain,
- a lower LCOE over the entire lifecycle of the power plant.

For our clients, this means a faster return on investment, as well as higher energy output during periods of peak demand, when electricity prices on the market are at their highest.







The coming year will be marked by intensive construction activity, new partnerships, and an even stronger position for the company in the energy sector of Southeast Europe



develop the market, and to build an energy future based on stability, efficiency, and sustainability.

One of the key indicators of the company's development is the fact that during 2025, we procured 100 MW of premium equipment, including:

- Huawei prefabricated substations
- · Huawei 300 kW inverters,
- AIKO solar panels—currently among the best on the market in terms of efficiency and degradation rates,
- complete mounting structures for solar power plants.

All of this equipment has been delivered, installed, and commissioned, or is currently under construction, enabling us to achieve the highest utilization rate of procured equipment in the company's history.

Q: MT-KOMEX operates successfully across the region, particularly following the establishment of MT-KOMEX BH in 2023 in Banja Luka. What are the company's further plans regarding expansion and strengthening its regional presence?

A: MT-KOMEX BH, established in 2023 in Banja Luka, proved in 2025 to be a strategic move that entirely delivered on expectations. Our team in Bosnia and Herzegovina is expanding. We are taking on large-scale solar projects in the Republic of Srpska and are actively analyzing entry into the Croatian and Montenegrin markets. The prefabricated energy solutions we develop position us as a trusted partner at the regional level as well.

# Q: How do you see the outlook for the solar industry in Serbia over the coming year, and which key changes or market trends do you expect?

A: Electricity prices on the power exchange, along with the volatility that characterizes European markets, clearly indicate that projects incorporating tracker systems and BESS solutions will be of decisive importance in the coming years. Serbia is expected to adopt regulatory frameworks that will enable the ancillary services market and define the role of flexibility aggregators, which means that battery systems will become a key component of the energy mix for industrial consumers.

As our market becomes increasingly integrated with the European market, we also expect the emergence of negative electricity prices—a trend already commonplace in EU countries. These periods will be ideal for charging battery systems, while discharging will be most profitable during times of high demand.

For our clients, this delivers a dual value proposition: supply stability and additional revenue through market-based mechanisms.

Interview by Milena Maglovski



# ABB CELEBRATES 50 YEARS OF VARIABLE SPEED DRIVES: TECHNOLOGY, PEOPLE, AND VISION SHAPING THE ENERGY FUTURE

his year, ABB marks the 50th anniversary of the introduction of its first low-voltage variable speed drive (VSD), an invention that fundamentally changed the way industry uses electrical energy. Although it remains largely unnoticed by the general public, this device lies at the very foundation of modern industry—across water and wastewater management, food production, transportation, data centers, and renewable energy facilities. It helps systems operate more reliably and efficiently, with a significantly reduced environmental footprint.

Back in the mid-1970s, Finnish engineer Martti Harmoinen developed a concept that would become an industry standard: enabling an induction motor to operate more efficiently, precisely, and reliably through electronic speed control. The first model, SAMI A, was installed in 1975 at a sawmill and at the

The first model, SAMI A, was installed in 1975 at a sawmill and at the Loviisa nuclear power plant in Finland, marking the beginning of a technological revolution

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Loviisa nuclear power plant in Finland, marking the beginning of a technological revolution. Over the following decades, ABB continuously refined this technology—from advances in power electronics and the introduction of IGBT transistors to process digitalization, automated testing, and the development of software functionalities that today form the backbone of modern variable–speed drives.

Today, variable speed drives are complex digital systems that integrate hardware, software, telemetry, and advanced analytics, enabling remote diagnostics, motor performance optimization, and predictive maintenance. Engineers who worked on their development several decades ago recall a time when tests were recorded manually, measurements were performed with analog instruments, and simulations were virtually nonexistent. Today's generation of engineers operates in a completely different environment-modern processors, digital algorithms, and cloud services have transformed the drive into a key enabler of industrial energy efficiency.

Part of this story has also been shaped in Serbia. Jovan Miladinović, Service Sales Manager at ABB Belgrade, recalls his early career: "I joined ABB in 2002, and that was my first encounter with variable speed drives, as I did not have the opportunity to learn about them at university—unlike today's generation of students, who are introduced to this type of equipment already during their studies. In my case, it was more challenging, as I had to relearn and adopt something entirely new."

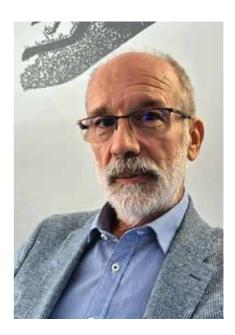
At the time he joined ABB, the ACS600 generation of drives was in use, and already the following year, the new ACS800 drives were introduced, quickly finding their place in large-scale projects within Elektroprivreda Srbije (EPS), particularly in Kolubara and Kostolac.

"One of the most significant projects at that time was the BTO system project in Kostolac, which we implemented together with Goša FOM. It was an extremely important project for us and paved the way for the later establishment of a service team here in Belgrade," he explains.

At that time, variable-speed control represented a radical change for mining machinery: reliability was increased, equipment wear was reduced, and more efficient process control was enabled. Miladinović highlights two individuals who had a decisive influence on the development of the Serbian market: Miko Heikkilä, who enabled training programs and factory visits in Helsinki, and Pekka Tiitinen, who encouraged the establishment of a local service organization in Serbia. "Thanks to him, we received support for training our personnel and equipping the service center, which was of great importance for our customers," Jovan says.

A new generation of professionals also offers its perspective on the development of the technology. Stefan Pavlović, Application Sales Engineer, belongs to a generation that encountered ABB drives already during university studies. "My first encounter with variable speed drives was in my third year, when I started attending courses in Electric Drives. Already at university, I had hands-on experience with ABB drives through laboratory exercises, as well as the opportunity to attend lectures where variable speed drives were thoroughly covered."

His message clearly reflects the evolution of the technology: "A



Jovan Miladinović Service Sales Manager at ABB Belgrade



Stefan Pavlović
Application Sales Engineer at ABB
Belgrade

Today, variable speed drives are complex digital systems that integrate hardware, software, telemetry, and advanced analytics, enabling remote diagnostics, motor per-formance optimization, and predictive maintenance

# 5 O YEARS OF ABB LOW VOLTAGE FREQUENCY REGULATORS



PAST, TODAY AND TOMORROW

variable speed drive is no longer just a device used to control motor speed. Drive technology has advanced significantly, especially in software. Today, a drive can automate an entire machine without the use of a PLC, or a service center on another continent can resolve an issue remotely."

He also points to the environmental aspect: "It is estimated that less than a quarter of electric motors are paired with drives, which means there is enormous potential for energy savings through the wider application of this technology."

Stefan concludes that the common thread throughout all 50 years has remained the same: continuous innovation, with ABB as its driving force.

The environmental impact of variable speed drives today is greater than ever. Electric motors account for around 70 percent of industrial electricity consumption, so any improvement in their control results in significant energy savings and directly contributes to reducing CO<sub>2</sub> emissions. ABB's analyses of more than 2,000 industrial motors show that switching to variable speed control delivers an average energy saving of 31 percent. At one of the world's most renowned scientific

institutions, CERN, an analysis of 800 motors identified a potential 17.4 percent reduction in energy consumption. These results confirm that variable-speed drives are not only a more efficient way to control motors—they are also among the most widespread and practical decarbonization technologies worldwide.

Today, as industries worldwide transition toward more sustainable

human story that has lasted for half a century. In line with ABB's vision, the anniversary of variable-speed drives is best captured by the slogan Engineered to Outrun, as it is precisely the combination of reliable technology and human expertise that continues to push boundaries, exceed expectations, and enable the industry to be more efficient and sustainable than ever before.



business models, ABB continues to combine tradition and innovation, technology and people, local experience and global expertise. Variable speed drives are not merely equipment—they represent a technological legacy, an energy strategy, and a



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50 years of LV drives | ABB





# SPAIN AND DENMARK LEADING THE WAY ON GREEN SHIPPING FUELS – STUDY

Spain, Denmark, Norway, and France are leading when it comes to producing green e-fuels that can be used for shipping, a new T&E analysis shows. But a lack of regulatory certainty is preventing most projects from moving beyond the planning stage. The EU should introduce more ambitious green fuel requirements for the shipping sector to ensure projects get off the ground, says T&E, which would deliver jobs and improve Europe's energy security.

The 2025 update of T&E's shipping e-fuels observatory found up to 80 green hydrogen and e-fuels projects that could be used to power ships, representing more than 3.6 million tons of oil equivalent (Mtoe) by 2032. But T&E found that just 5 percent of those volumes are clearly dedicated to the maritime sector. At the same time, only a small proportion of projects have reached the final investment decision (FID) stage or become operational, suggesting that regulatory uncertainty is preventing them from moving forward.

Some countries are positioning themselves as potential marine e-fuel suppliers. Norway has the largest quantities of fuels dedicated primarily to the maritime sector, followed by Spain, Finland, and Denmark. The Kassø project by European Energy, which supplies e-methanol to Maersk, went online in 2025 and is the first marine e-fuel project and the biggest of its kind in Europe.

Among the e-ammonia and e-methanol projects, which include the maritime or transport sectors as potential buyers, the maritime sector generally constitutes the largest potential offtaker, the research finds. When it comes to e-ammonia, for example, shipping was mentioned as a potential client for double the project volumes as the fertilizer and chemical industries. Strong demand signals from the shipping sector would provide producers with a much-needed assurance that there is a solid market for their green fuels.

Source: Transport&Environment

### CITIES IN SERBIA AND BOSNIA AND HERZEGOVINA RANK AMONG EUROPE'S MOST POLLUTED BY PM2.5

Cities in Serbia and Bosnia and Herzegovina ranked among the most polluted in Europe in terms of PM2.5 air pollution in 2024, according to data from IQAir, an internationally recognized air quality monitoring platform.

PM2.5 refers to fine particulate matter with a diameter of less than 2.5 micrometers. Their danger lies precisely in their small size, as they can penetrate deep into the lungs and bloodstream, increasing the risk of respiratory and cardiovascular diseases.

All ten cities on the list of Europe's most polluted cities by PM2.5 are located in the Balkans. Bosnia and Herzegovina accounts for four cities, Serbia for three, Montenegro for two, and North Macedonia for one.

The most polluted city in the region was Novi Pazar, Serbia, followed by

- · Bijelo Polje, Montenegro
- Pljevlja, Montenegro
- · Valjevo, Serbia
- · Sarajevo, Bosnia and Herzegovina
- Gračanica, Bosnia and Herzegovina
- Banja Luka, Bosnia and Herzegovina
- Vogošća, Bosnia and Herzegovina
- Tetovo, North Macedonia
- · Kosjerić, Serbia

An overview of the ranking from 10th to 50th place shows that an additional eight cities from Bosnia and Herzegovina and as many as 17 from Serbia appear on the list. In other words, more than half of the next 40 most polluted cities in Europe come from Serbia and Bosnia and Herzegovina.

The highest levels of pollution were recorded during the winter months (November–February), while the lowest levels were recorded in May among these ten cities. These seasonal winter peaks indicate that heat generation remains a major source of PM2.5 pollution, particularly individual heating systems using solid fuels. This highlights the urgent need to transition to cleaner heating sources and improve energy efficiency.

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# SERBIA IS THE MOST ADVANCED IN THE REGION IN IMPLEMENTING THE ELECTRICITY INTEGRATION PACKAGE

The integration of the European Union's energy market and the Energy Community is no longer only a political objective but a shared economic, climate, and security imperative—the key conclusion of the Energy Community Secretariat's 2025 Implementation Report. The document highlights tangible progress by the Contracting Parties in aligning with EU energy and climate legislation, further strengthening their role as reliable partners within a unified European energy space.

As Europe's energy landscape rapidly evolves and markets adjust to ambitious climate goals, reforms within the Energy Community are becoming crucial for more competitive markets, greater clean-energy investments, and a more secure supply. Additional pressure comes from the Carbon Border Adjustment Mechanism (CBAM), which will begin applying to electricity trade as of 1 January 2026.

### Progress in adopting EU rules: Serbia and Moldova as frontrunners

Three years after the adoption of the Electricity Integration Package (EIP), the efforts to transpose its legal acts have yielded the first significant results. Although most Contracting Parties failed to adopt all nine mandatory acts by the 31 December 2023 deadline, Serbia and Moldova demonstrated that full adoption is achievable.



Following the adoption of the new Energy Law at the end of 2024, Serbia continued implementing network codes and guidelines, completing the process in August 2025. Moldova, meanwhile, adopted all remaining network codes, thereby also completing the EIP. Montenegro and North Macedonia progressed by adopting new energy laws, while draft laws prepared in Bosnia and Herzegovina and Ukraine are still awaiting parliamentary procedure. Albania, Georgia, and Kosovo\* have yet to move beyond drafting legislation.

### Electricity market integration – key to decarbonization and CBAM exemption

The report underscores that continued decarbonization will depend directly on progress in electricity market integration, which is expected to unlock much larger trading volumes and investment potential than small national markets can provide. Full adoption of the EIP is a prerequisite for market coupling with the EU before accession, and for exemption from the application of CBAM on electricity trade.

Given the current pace and the necessary compliance checks by the European Commission, the earliest possible market coupling can be expected in 2028.

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\*This designation is without prejudice to positions on status. It is in line with United Nations Security Council Resolution 1244 and the opinion of the International Court of Justice on the declaration of independence of Kosovo.





### SLOVENIA CO-FINANCES THE CONSTRUCTION OF SOLAR AND WIND POWER PLANTS WITH CAPACITY ABOVE 1 MW

Slovenia has announced an amended public call for the co-financing of investments in the construction of new electricity generation facilities from solar and wind power plants for the period from 2025 to 2029.

According to the Ministry of the Environment, Climate and Energy, the amendment enables the harmonization of capacity thresholds for investments in solar and wind power plants with a rated capacity above one megawatt (MW), regardless of the applicant's status.

Eligible applicants include companies and renewable energy communities established in accordance with the Act on the Promotion of the Use of Renewable Energy Sources.

Eligible costs include the purchase and installation of generation equipment and battery systems, related electrical installations and equipment, construction and installation works, and professional supervision.

Funding from the European Regional Development Fund covers up to 45 percent of eligible costs for generation facilities without electricity storage capacity and up to 30 percent for battery systems, with a maximum co-financing amount of EUR 25 million per project.

In the case of installing a battery energy storage system, its capacity must amount to at least 0.75 kWh per kW of the rated capacity of the generation facility to which the system is connected.

The deadlines for submitting applications are February 6, 2026, and June 5, 2026. The funds are intended to strengthen renewable energy generation and encourage local and entrepreneurial investments in the energy sector.

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### CHINA SHIFTS TO "HIGH-QUALITY" RENEWABLE ENERGY GROWTH: LESS SUBSIDY, MORE MARKET

China installed a record 264 gigawatts of new wind and solar capacity in the first half of 2025—twice as much as in the same period last year. The surge was driven by investors rushing to complete projects before the country's new market-based electricity pricing system for renewables takes effect, according to an analysis and statement by Wood Mackenzie.

After years of prioritizing rapid, large-scale capacity expansion, China is now entering a phase of so-called "high-quality development"—a policy focused on stability, sustainability, and economic efficiency rather than sheer megawatt growth. The new system introduces market auctions and competition among producers, replacing the previous quaranteed feed-in tariffs.

Wood Mackenzie's data show that the first tenders in Shandong province have already triggered strong market responses: solar prices dropped by about 32 percent and wind by 9 percent compared to previous averages. This marks the beginning of a period when competition will determine prices—putting pressure on profit margins but improving overall market efficiency in the long term.

According to the company's analysts, projects completed before June 2025 still yield stable returns of 8 to 11 percent, thanks to lower technology costs and longer purchase contracts. For new projects, expected returns are around 6 to 7 percent, as guarantee periods are shorter and the market is more volatile.

Wind farms currently enjoy an advantage due to lower risks of production curtailment and steadier revenues. At the same time, solar projects in some regions face tighter financial conditions because of unstable grid capacity.

Through this transition, China signals its intent to move away from a subsidy-driven expansion model toward one that emphasizes sustainable growth, rational costs, and a long-term, stable energy market.

**Energy Portal** 





# RECORD SOLAR ENERGY PRODUCTION IN THE EU IN 2025: WHAT ARE THE PROJECTIONS UNTIL 2030?

The projections for the development of solar energy discussed throughout the year have been confirmed in the latest SolarPower Europe report – EU Solar Market Outlook 2025–2030. After ten years of strong solar energy growth, 2025 marks the first slowdown. Estimates show that 65.1 GW of new solar capacity will be installed by the end of the year, representing a 0.7 percent decrease from 2024.

The reasons for the slowdown differ between rooftop systems and large ground-mounted installations. In the case of rooftop installations, including households and companies, the decline is primarily due to the diminishing impact of the energy crisis. Although gas and electricity prices remain high, the urgency to invest in solar systems is no longer the same, and it has further weakened due to the withdrawal of certain support programs in several key countries.

On the other hand, large (utility-scale) installations remain the main driver of solar energy growth in the European Union — in 2025, they surpassed 50 percent of all new installations for the first time. Nevertheless, concerns persist, as the development of this segment is constrained by an overloaded grid, increasingly frequent negative electricity prices, and regulatory uncertainty.

Although the growth of rooftop installations has slowed, cumulatively — when looking at all years to date — this segment still dominates with a 61 percent share. In comparison, large installations account for 39 percent of the EU's total installed solar capacity.



Still, the previous data should not be discouraging. According to the report, solar energy will provide more than 13 percent of electricity in the European Union in 2025. Compared to 2021, its share has doubled. Another important piece of information is that solar energy became the largest single source of electricity generation in the EU in June 2025, supplying 22 percent of total production.

By September 2025, this energy source had produced more electricity than during the entire year of 2024, reaching 312 TWh in just nine months.

### Reaching the 2030 Target

The slowdown in solar energy development is expected to continue through 2026 and 2027, but growth is anticipated to return toward the end of the decade. The medium scenario indicates that after the next two years, solar energy will return to a growth zone, although the growth rate will remain low and in the single digits.

When both challenges and encouraging indicators are taken into account, the cumulative outlook suggests that current conditions are insufficient for the EU to reach its 2030 target of 750 GW of solar energy. The medium scenario projects a total capacity of 718 GW by then, higher than the low scenario (664 GW), but still below the target. Only the high scenario foresees the target being met, with 810 GW, demonstrating that the goal is achievable but requires more favorable conditions.

In the coming years, electricity demand is

expected to rise due to the growth of electric vehicles, heat pumps, industry, and data centers. To meet these needs, further development is required in electrification, battery storage, and system flexibility. Additionally, stable policies and improved land-use processes will be essential.

Most new solar capacity — as much as 80 percent — is expected to be installed between 2026 and 2030 in just ten EU member states. The top three among them — Germany, Italy, and Spain — will account for nearly half of all installations in the European Union.

The overarching message is that broader participation of more member states is necessary to ensure a more stable and balanced development of solar energy across the EU.

**Energy Portal** 





### A NEW LIFE FOR OLD TURBINE BLADES: FROM PLAYGROUNDS TO SURFBOARDS

Producing clean energy is no longer enough for renewable sources to fully meet sustainability criteria. As their use grows and becomes an integral part of the everyday energy system, the questions move further: how do we store energy, how do we use it efficiently—and, perhaps most importantly—what happens to the technology once it reaches the end of its operational life?

I've written multiple times about wind turbines, their components, and their potential to be sustainably utilized even after they stop operating. So I'll touch on that only briefly here: research shows that almost 90 percent of a wind turbine's total mass can be recycled using existing waste-management methods. But turbine blades remain a real challenge—complex composite materials make them difficult to separate and recycle. Still, this shouldn't be an excuse. If we truly want renewables to be sustainable, we must find solutions.

On its Circularity Hub platform, WindEurope has showcased several concrete and inspiring examples of how wind turbine blades can be given new value through four main approaches: reuse, repurposing, recycling, and recovery. These methods cover everything—from repairing and selling used components to creatively repurposing

blades into infrastructure or new products to processing them into raw materials to recovering energy and resources when recycling is not yet feasible.

The first example I'll share in this blog comes from the Netherlands, where the company Blade–Made transforms entire turbine blades into a modular noise-reduction wall. The same company also reshapes blades into durable playgrounds and urban furniture—segments of blades become climbing structures, seesaws, and benches, all while keeping the recognizable form and aesthetics of the original blade. Children can now play on them without even knowing they once powered a wind turbine.

In Spain, ACCIONA Energía, in cooperation with the fashion brand El Ganso, uses recycled blade material to produce sneakers. In Australia, the company created the world's first surfboard made from wind turbine blades. The first ten prototypes were handcrafted on the Gold Coast.

When it comes to recycling, Spain is home to EnergyLoop. This specialized blade-recycling plant processes composite materials, which then become raw materials for construction, the automotive sector, aviation, and similar industries.

The recovery method is the least preferred option and is used when recycling simply isn't possible—for example, due to the complexity of the material or technical limitations. In this process, blades are shredded and used as fuel or feedstock in industrial processes under controlled, closed-loop conditions. This prevents landfilling, but the material can no longer retain its original structural value.

One example comes from Finland, where Kuusakoski Recycling converts spent blades into raw material for cement production. The blades are shredded using advanced technology that poses no risk to people or the environment, and

the resulting material is used in cement kilns. According to a recent WindEurope report, this approach significantly reduces CO<sub>2</sub> emissions in both cement production and waste management. Each ton of processed composite waste saves up to one ton of CO<sub>2</sub> compared to traditional incineration methods.

Recovery is a practical solution when other methods are not feasible, but the future of circular wind energy ultimately depends on recycling and reusing components.

Katarina Vuinac







Deforestation in the Amazon and Cerrado biomes reduced by

# 11 percent.









Erste Bank introduces a

# new ESG mentorship

model for clients in Serbia.





[PAGE 30]

Srbijašume.

in cooperation with

the Public Enterprise









# New Guide for Local Self-Government Units

presented by the Energy Transition Platform.

[PAGE 62]



# **5** years

of independent operations celebrated by Siemens Energy.

[PAGE 32]





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# A STORY OF THE PEOPLE WHO BROUGHT COLOR BACK TO KOLONIJA

n the heart of Smederevska Palanka, in a neighborhood long marked by monotony, neglected public spaces, and a sense that nothing ever changed, a story was born—one that today inspires thousands. The initiative "Let's Clean Kolonija" emerged as a response by ordinary citizens to everyday problems, and as proof that change doesn't have to begin in big places or with grand gestures.

This is a story about a group of people who refused to remain mere observers—they chose to take responsibility for the space in which they live. Instead of waiting for someone else to act, they started with small, thoughtful steps and demonstrated that local initiatives can spark broader understanding and cooperation.

### How It All Began: A Small-Scale Revolution

There was no elaborate plan, no meetings, and no institutional calls to action. It was a sincere, spontaneous response to a situation everyone saw but few attempted to change. Two women, driven by an inner urge to do something,

Years of monotony and accumulated communal problems motivated us to take a strong step forward—not to wait for someone else to fix things, but to show by example that it is possible to make our world a better and more beautiful place to live

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decided to invite their community to join a neighborhood cleanup.

"The call was shared on social media, and at that moment it seemed like a concrete way to make a positive impact on our deeply ailing system," recalls Ružica, one of the activists.

It sounds simple, but the step they saw as a small act of civic responsibility became the seed of a much bigger transformation. People began reaching out, sharing the post, and offering help. Kolonija—a neighborhood stagnant for years—suddenly felt a surge of new energy.

"Years of monotony and accumulated communal problems motivated us to take a strong step forward—not

to wait for someone else to fix things, but to show by example that it is possible to make our world a better and more beautiful place to live," Ružica adds.

# Actions That Transformed the Face of Kolonija

From the very first gathering to today, "Let's Clean Kolonija" has grown into a living, breathing community driven by energy, ideas, and goodwill. The initiative's members are especially proud of their most recent project—a mural at the local bus stop, painted by artist Jelena Bokić with support from the Changing Together project. "Our latest action is also the most positive change we've managed to make in our neighborhood because it carries both a clear and lasting message — 'Everybody matters to make the world stronger.' In other words, every individual action is not a small thing, but an important piece of a larger mosaic that represents an orderly and healthy environment in which we all live together again," says Ružica.

The mural's vibrant colors now stand in stark contrast to the former greyness of the neglected bus stop. It is not merely decoration—it is proof that a small, thoughtful intervention can transform the appearance of a







Everybody matters to make the world stronger

public space and draw attention to its potential.

It is precisely this idea—that change begins with simple, concrete steps—that underpins the broader work of "Let's Clean Kolonija," as their activities extend far beyond cleaning. They have organized workshops for children, humanitarian bazaars, and community gatherings that foster learning, cooperation, and mutual support.

The activists of Palanka have also stepped beyond their neighborhood's boundaries. Through the "Report a Dumpsite" campaign, they



the "Let's Clean Palanka" website, where they publish uncensored reports on environmental and communal issues, as well as stories about local heroes.

Their plans are not grand in scale, but they are deeply rooted in the idea of togetherness.

"We hope our group will gain more volunteers who will work on specific issues and actively help solve them. The future of our community depends on us—on our work and dedication—but also on the people who, together with us, form the

identified dozens of locations across the city where waste is improperly disposed of. This, Ružica adds, resulted in a series of official reports filed with the relevant inspection authorities, opening the door to a more serious, systemic approach to resolving long-standing communal problems.

"We work continuously on cases involving illegal dumpsites, and citizens can report them through our website or social media profiles," our interviewee explains.

Residents now contact them daily, sending photos and asking for solutions. "Let's Clean Kolonija" is no longer just an initiative—it has become the voice of the community.

"Every revolution begins within us. The moment you tell yourself, 'I can do this, I want to, and I'm ready to act,' is the moment when change truly begins. And the most beautiful thing of all is that when you are active and involved in activism, you feel life in its fullest form," says Ružica.

This is also a message to all those who still stand on the sidelines, waiting for the "perfect moment" to make a positive change in their community.

# How Difficult Is It for Citizens' Voices to Be Heard

Anica, also an activist within the "Let's Clean Kolonija" initiative, explains that at first it was difficult



for them to "break through" to the public because they received no support from local media. This inspired them to create their own social media channels to inform citizens about their activities and invite them to participate.

"One of the goals of our actions is to raise awareness of the environmental issues in our community and to encourage as many people as possible to get involved. That's why our commitment to communication through social media helps us achieve that," Anica explains.

Day by day, post by post, they built their own channels to inform the public. Today, they are followed by thousands of people, and their posts often reach hundreds of thousands of views. They also launched environment in which we live. That's why cooperation is crucial: together we are stronger and can leave many things to future generations, and above all, good habits that will lead us to the ultimate goal—a healthy and clean environment," says Anica.

The aim is not only to solve problems, but to build a culture of care—habits that will become part of everyday life and values that children will naturally adopt by watching their parents and neighbors.

"Let's Clean Kolonija" is far more than a story about cleaning up waste. It is proof that small communities can have great people, that change begins with us, and that communities are alive only as long as the people within them are active.

Prepared by Milena Maglovski



# SUSTAINABILITY IS AN INTEGRAL PART OF EVERY ONE OF OUR PROCESSES

e spoke with Nemanja Tomić, Member of the Executive Board of ProCredit Bank, about what sustainable banking looks like in practice and what we can expect in the coming period.

# Q: ProCredit Bank recently published its second local Sustainability Report. What would you highlight as the key results?

A: For us, the Sustainability Report is much more than a formality - it is a way to transparently demonstrate our individual contribution and how our decisions affect the economy and the environment. Our results from last year show that growth can and must be sustainable. We invested in areas that benefit the community: entrepreneurship, financial inclusion, energy efficiency, and green investments. Our green loan portfolio continues to grow, and an increasing number of clients are using funds to invest in renewable energy sources, energy-efficient technologies, and sustainable business models.

# Q: How deeply is sustainability integrated into the bank's business model?

A: Our business model is based on the belief that banks have a responsibility to direct capital toward projects that contribute to long-term sustainability. When approving a loan, we do not look solely at financial indicators but also at the project's economic, environmental, and social impacts. This means we do not finance activities with a high negative environmental impact; instead, we support companies that invest in modernization, digitalization, and energy efficiency. Sustainable finance is not a separate segment — it is an integral part of every one of our processes, from risk assessment to client relations.

# Q: How would you assess the willingness of domestic companies to invest in green projects?

A: We are seeing significant progress. More and more companies understand that investments in energy efficiency are not an expense but an investment that generates savings

and strengthens their market position. Our role is to provide them with expert support and clear, transparent financing conditions. Companies that take such steps become more resilient to market fluctuations and to increasingly stringent regulatory requirements.

# What are your plans for the upcoming period?

A: We will continue offering more favorable terms for projects that contribute to reducing emissions and improving energy efficiency. As an extension of our sustainable business model, we want to provide individuals with simple, transparent, and fair banking products while also encouraging them to make decisions that improve their long-term quality of life. We will also work on strengthening financial education and promoting responsible behavior. I am convinced that sustainable business is the only right path today, and I am glad that clients increasingly recognize the long-term benefits of this approach.

Interview by Milena Maglovski

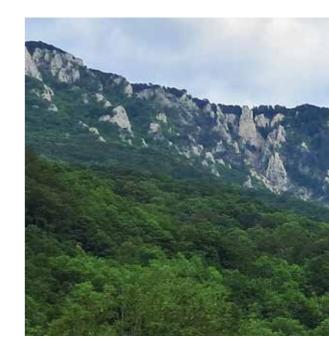


# ESG COMMUNICATION IN SERBIA: BETWEEN OBLIGATION, EXPECTATION, AND STRATEGIC OPPORTUNITY

hroughout 2025, we witnessed global sustainability reporting standards evolve and become increasingly demanding. New frameworks were published—the ISSB (International Sustainability Standards Board) under the IFRS Foundation, the ESRS (European Sustainability Reporting Standards) in the European Union, as well as the TNFD (Taskforce on Nature-related Financial Disclosures), which, for the first time, systematically incorporates biodiversity and nature protection as mandatory components of sustainability reports.

These standards are no longer a trend, but a business reality. For companies in Serbia and the wider Western Balkans region, this means that ESG can no longer remain a pleasant "add-on" to the annual financial statement; it is becoming an essential and inseparable part of business strategy, governance, and communication.

The Serbian business landscape is undergoing one of its most significant transitions yet—the integration of ESG principles. After years in which sustainability appeared mainly in communication campaigns, CSR activities, or isolated projects, the year 2025 brought a fundamental shift: regulatory frameworks, market pressures, and partner expectations have now clearly established ESG



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as a mandatory element of the business model.

## **Regulatory Framework: The End of Improvisation**

The past several years have been crucial for the development of sustainability practices in Serbia. Companies have recognized their obligation under the Accounting Law to disclose non-financial information, yet the market shows that many businesses still treat ESG reporting as a mere formality.

The non-financial reporting guidelines issued by the Ministry of Finance for the first time clearly define

> **Companies have** recognized their obligation under the Accounting Law to disclose nonfinancial information, yet the market shows that many businesses still treat ESG reporting as a mere formality

what is expected of companies opepackage of accompanying regulati-

In other words, domestic companies are now entering a period in which ESG becomes just as important as financial reporting.

# Where We Stand Today: **What Domestic Companies** Disclose — and What Is Missing

Companies in Serbia are entering a phase in which ESG requires:

- measurement and verification,
- risk and impact assessment,
- double materiality,
- clear KPIs and targets, and crucia-
- precise communication of all these processes.





SANDRA PEJOVIĆ is a communications strategist and sustainability promotion expert with more than 25 years of experience in marketing, brand management, and strategic communications. She graduated in Marketing from the Faculty of Economics in Belgrade. She has held managerial and leadership positions at major companies, primarily in retail — Delta Maxi, Delhaize Serbia, and the Keprom Group — where, as part of the strategic team, she helped build corporate, consumer, and retail brands across Serbia, Montenegro, and Bosnia and Herzegovina. This extensive experience enabled her to develop a broad perspective on how sustainability can become a driver of change in business and society. Over the past seven years, she has been deeply involved in promoting sustainable development and CSR activities within the corporate marketing department of NIS. After many years in the corporate sector, she decided to dedicate her knowledge and experience to advancing sustainability through public education and supporting small and medium-sized enterprises in defining their own pathways to sustainable development. She is the author of numerous professional articles and columns on ESG, CSR, and sustainable practices, regularly published on the InStore.rs portal within the column "From the Expert's Perspective."





The key challenge for the domestic economy lies in distinguishing between meeting a requirement and truly integrating sustainability into the business model as a strategic component.

Analyses of published non-financial reports in Serbia reveal several positive developments, but also significant gaps. Clear trends and recurring patterns can be observed:

Governance and responsibility exist — but are often declarative. Although many companies publish policies and procedures, very few provide insight into how boards and management teams actually govern ESG topics. Policies on environmental protection, human rights, and anti-corruption are disclosed, but their implementation is rarely explained. Responsibilities are often not clearly defined, and strategic ESG objectives are seldom discussed at the top management level. In practice, this means sustainability does not function as part of managerial logic, but rather as an additional task.

Environmental initiatives are visible but disconnected. Many companies invest in energy efficiency, waste management, and resource reduction. However, continuity, context, and strategic alignment are often missing—there are no clear goals or demonstrated contributions to the overall business strategy.

The social component is developing but without measurement. Companies increasingly report on employee well-being, training, and community support. Yet, few set clear targets, track progress, or link social impact to long-term business performance.

**Strategy and business model** — **recognized but not integrated.** Most companies acknowledge the need to describe their business model, but ESG strategies are often not tied to the core business strategy. Instead of an integrated approach, the prevailing mindset remains project-based, where sustainability appears occasionally—as a campaign, an activity, or an isolated initiative.

# Impacts, Opportunities, Climate Risks — the Biggest Gap

The assessment of double materiality remains one of the most significant challenges. Although certain topics—particularly environmental ones—are recognized as material, broader strategic impacts and financial materiality are often misunderstood. Stakeholder engagement is largely formal and does not provide a realistic picture of the company's impacts. ESRS standards require analysis of climate risks, scenario assessments, double materiality evaluation, and emissions across scopes (Scope 1–3).

This is the area where most domestic companies are only beginning their journey.

# Indicators and Targets (KPIs)

The most significant deficit is visible in the core component of a strong ESG report — clear, measurable targets and demonstrated progress. Many



companies provide basic data, but rarely set timelines, quantify objectives, or show continuity. Reporting typically covers employee numbers, community initiatives, energy use, and waste, while greenhouse gas emissions and climate-risk analyses remain insufficiently addressed.

In conclusion, Serbia is in a transition phase — moving from a declarative to a strategic ESG model.

# Sectors Under the Greatest Pressure

In industries such as energy, mining, agriculture, and financial services, the role of ESG is even more pronounced because it directly influences regulatory risk, reputation, and long-term business models.

Different industries carry different risks:

• **Energy:** transition from fossil fuels to renewable energy sources

- human rights concerns—including community displacement and unsafe working conditions.
- Telecommunications and IT: e-waste, energy-intensive data centers, digital inclusion.

These sectors will be the first to fall under mandatory ESG reporting—and the first to feel the consequences of inadequate communication.

### Why This Matters for Domestic Business

In 2026, full implementation of ESG obligations in line with the ESRS framework is expected, while banks, investors, and EU partners are already introducing ESG criteria into tenders, financing, and partner assessments. This means ESG communication is no longer a matter of style — it is a mechanism of reputation, evaluation, and business decision—making.



and increasingly stringent climate requirements to reduce carbon dioxide emissions.

- Agriculture: soil degradation, water stress, and biodiversity loss.
- Fashion industry: supply chain transparency, labor rights violations, and high water consumption.
- Finance: responsibility for financing high-carbon activities and/or insufficient integration of ESG risks into investment decisions.
- Mining: land degradation, water pollution, deforestation, and

For that reason, ESG communication must be:

- · accurate,
- verifiable,
- · consistent,
- · aligned with standards,
- tailored to different audiences,
   and
- strategically managed throughout the entire year.

Companies that integrate ESG factors and communicate them transparently to stakeholders create a clear competitive advantage:

- stronger access to capital, as investors and banks rapidly adopt ESG parameters,
- reduced operational costs through energy efficiency, circular processes, and optimized resource use,
- a more resilient supply chain, especially in sectors exposed to climate risks,
- greater consumer trust, as transparency becomes increasingly valued,
- stronger talent attraction, particularly among younger generations.

# Will 2026 Be a Test of Business Maturity?

Serbia is entering a period in which sustainability will become one of the key criteria for access to financing, for partnerships within the EU, for competitiveness, and for long-term brand value.

This is why high-quality ESG communication is just as important as the ESG strategy itself. It connects management, investors, the market, and the public — and demonstrates how prepared an organization truly is for the future.

I believe that 2026 will be a defining year for companies wishing to move from formal reporting to genuine sustainability leadership. We will clearly see the difference between companies that integrate ESG into their operations — and those that merely communicate it through PR.

We are entering a year in which banks, EU partners, and investors will demand evidence, not statements. A year in which the ability to articulate one's ESG journey will become as important as the ESG performance itself.

When authentic and strategically guided, the ESG narrative becomes a key lever that distinguishes companies ready for adaptability and innovation — positioning them as leaders of a new, responsible, and sustainable business economy.

Sandra Pejović, Communications Strategist and Sustainability Promotion Expert



# COP30 IN RETROSPECT – WHAT HAS BEEN ACHIEVED AND WHAT CHALLENGES REMAIN

ovember 2025 was marked by the 30th UN Climate Change Conference (COP30), the largest global climate policy event, which brought together leaders, ministers, scientists, and civil society representatives from more than 190 countries. COP is the forum where the most important decisions are made, decisions that aim to steer the world toward halting the rise in global temperature to 1.5°C and fulfilling the goals of the Paris Agreement. Yet, at the end of almost every conference, the same question remains: has enough been done? COP regularly yields strong declarations and ambitious goals, but it also periodically draws mixed reactions, primarily because the adopted decisions are slow and insufficiently implemented in practice.

This is precisely why COP30 was announced as the COP of implementation—a conference where the focus would not be on introducing new pledges,

One of the key moments
of COP30 was the
launch of the Green
Digital Action Hub—a
platform supporting the
deployment of digital
climate solutions in
82 countries

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but on the concrete execution of existing commitments. This is further reinforced by the Action Agenda, defined by COP30 as a mechanism for translating the findings of the first Global Stocktake into tangible actions. Introduced under the 2015 Paris Agreement, the Global Stocktake is intended to review global progress toward climate goals every five years. The first Global Stocktake, concluded at COP28 in Dubai, revealed that the

world is not on track to limit warming to 1.5°C, prompting COP30 to attempt to turn those findings into measures that can deliver real results.

Brazil, as the host, carries symbolic weight—a country home to the Amazon rainforest, one of the key ecosystems for global climate stability. However, even though the conference was presented as the COP of implementation, it remains to be seen whether promises have been

effectively transformed into action. Many important decisions have indeed been adopted, but the question is whether participants and the global public are satisfied with the outcomes.

Ahead of the conference, three pillars of action were outlined to guide the negotiations:

- Fulfilling the climate commitments countries have already undertaken
- 2. Strengthening global climate governance
- 3. Putting people at the center of climate decisions

### **Key Initiatives of COP30**

COP30 placed particular emphasis on the inclusion of Indigenous peoples through the COParente initiative, which brought together 80 Indigenous communities and enabled up to 360 leaders to participate in official negotiations—sending a strong message about their crucial role in addressing the climate crisis.



In addition to this group, youth participation in negotiations was also strengthened.

Multilateral development banks (MDBs) reaffirmed their commitment to accelerating climate finance, presenting new metrics and methodologies, while Germany and Spain provided USD 100 million for the ARISE investment program. The goal of this program is to help developing countries turn climate risk into opportunity. However, MDBs highlighted persistent challenges, including limited official development assistance (ODA) budgets and an insufficient pipeline of bankable projects. They emphasized the need for stronger coordination between governments and the private sector.

Finep, Brazil's innovation financing agency, announced three new financing lines totaling approximately EUR 74 million at COP30. The funds will support projects in the Amazon region (biotechnology, renewable energy, ICT, healthcare), the preservation and digitization of cultural and scientific collections, and investments in the bioeconomy and sustainable technologies.

Banco da Amazônia used COP30 to announce the mobilization of up to approximately EUR 640 million in sustainable investments for the Amazon biome, with an initial contribution of around EUR 80 million.



The funds will be directed toward promoting the bioeconomy, green infrastructure, and carbon credit projects, with plans to raise additional capital from the private sector.

The role of technology in combating climate change was also strongly emphasized. One of the key moments of COP30 was the launch of the Green Digital Action Hub—a platform supporting the deployment of digital climate solutions in 82 countries. Its goal is to expand the use of green digital technologies and accelerate decarbonization efforts worldwide.

The Plan for Accelerating Multilevel Governance Solutions (PAS) represents another significant milestone. It marks the beginning of a new phase in global climate cooperation,

integrating various levels of government and sectors of society to ensure effective implementation of the Paris Agreement. Brazil and Germany were announced as co-leads of the Coalition for High Ambition Multilevel Partnerships (CHAMP)—a platform that strengthens cooperation between national and subnational authorities, supported so far by 77 countries and the EU. The plan envisions that by 2030, as many as 120 national climate plans and Nationally Determined Contributions (NDCs) will incorporate principles of multilevel governance, accompanied by the training of around 6,000 experts and public officials in countries supporting CHAMP.

Special attention was directed toward tropical forests, given that







Brazil is one of their most significant global symbols. In this context, COP30 saw the launch of the Tropical Forests Forever Facility (TFFF)—a global mechanism supported by 53 countries, with initial pledges exceeding USD 5.5 billion. It aims to ensure the long-term preservation of tropical and subtropical rainforests by directly compensating countries and forest stewards for efforts to maintain or increase forest cover. In addition, the J REDD+ initiative was announced, designed to reduce deforestation through a carbon credit system and promote the inclusion of governments, investors, and civil society.

UNEZA, a global alliance bringing together leading electric power companies and service providers in

the electricity sector, announced an increase in its annual investments in renewable energy transmission and storage systems—from USD 117 billion to USD 148 billion.

During COP30, the Belém Declaration on Global Green Industrialization was adopted and supported by 35 countries and international organizations. Its goal is to promote the energy transition, technological innovation, and sustainable economic growth. The signatories committed to coordinated actions to modernize industry, enable technology transfer, and strengthen sustainable supply chains, with particular emphasis on developing new clean industries. The declaration also underscores the importance of social inclusion, highlighting that green industrialization should create jobs and benefits for communities, especially in countries of the Global South.

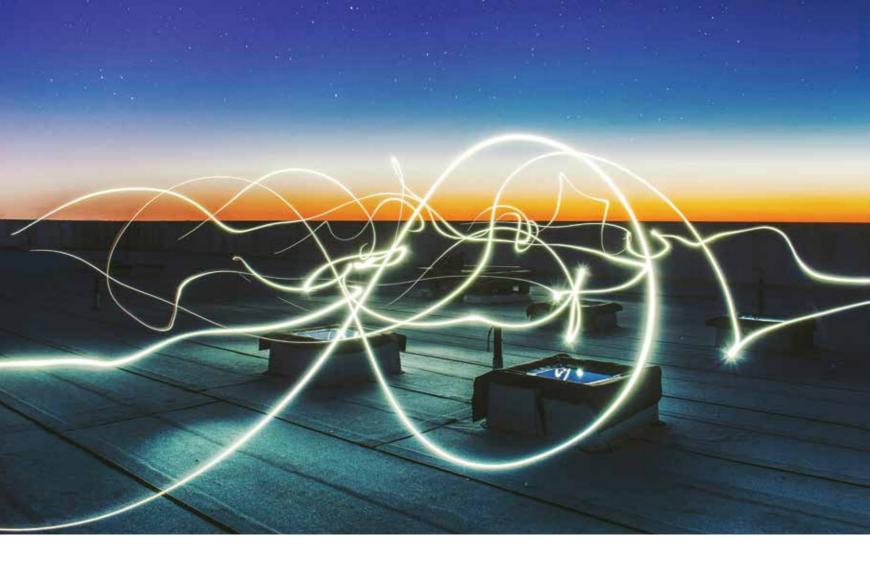
Two initiatives that stand out as particularly significant—and whose implementation will be monitored over the coming year until COP31—are the Belém Mission to 1.5 and the Global Implementation Accelerator. The Belém Mission to 1.5 aims to monitor the implementation of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), while also encouraging greater ambition in national climate plans through international cooperation and

investment. The Global Implementation Accelerator provides a coordinated global response to the emissions reduction gap. It accelerates climate action across all sectors to keep the 1.5°C target within reach, helping countries implement their NDCs, NAPs, and Biennial Transparency Reports (BTRs) on the ground.

Climate adaptation received further attention through the adoption of the Belém Package. Under this package, parties agreed to triple adaptation finance by 2035 as part of the global climate finance commitments known as the New Collective Quantified Goal. In addition, a set of 59 indicators was adopted to track progress in implementing adaptation measures, in line with the Global Goal on Climate Adaptation (GGA)—a key objective of the Paris Agreement. These indicators serve as tools for evaluating the impact of adaptation investments and programs, while financial commitments provide countries with the resources needed to implement concrete climate solutions.

Although COP30 was presented as a conference focused on implementation and many significant decisions were adopted, opinions in the media, among organizations, and within the expert community remain divided regarding its success and actual impact. The issue of fossil fuels generated perhaps the most polarized reactions. More than 80 countries supported the inclusion of a roadmap—a concrete plan to reduce the use of coal, oil, and gas, including the phase-out of subsidies and a transition to renewable energy—in the Mutirão decision, a political document representing the collective effort of parties to reach agreement on key climate issues. However, the final text of the Mutirão decision did not include any concrete provisions due to disagreements between fossil fuel-producing countries and those advocating for a faster transition.

Prepared by Katarina Vuinac



# A PRACTICAL GUIDE FOR LOCAL GOVERNMENTS: SUPPORTING THE FORMATION OF ENERGY COMMUNITIES

he concept of energy communities is becoming increasingly prominent in discussions about a just energy transition—one that aims to include all segments of society. However, for a large portion of Serbia's population, such concepts remain unfamiliar or are perceived as abstract. To build trust and ensure broader acceptance, it is essential to bring this concept closer to citizens in a way that clearly demonstrates that they themselves can be active participants in the transition process.

Marko Nedeljković, Project Manager at the Energy Transition Platform, spoke to our magazine about what energy communities actually are, why they matter, and how they can be developed in Serbia. We also placed special focus on the new Guide for Local Governments, designed as a practical tool for cities and municipalities that wish to support the development of citizen-led energy initiatives.

Beyond the economic and environmental benefits—which are perhaps the most evident—energy communities generate substantial social value



### Q: Could you explain the concept of energy communities, why they are important, and how they can contribute to a sustainable and just energy transition in Serbia?

A: When we talk about energy communities, it is important to view them first as a social phenomenon, and only then as a technical one. They represent a form of collective action in which citizens and other local stakeholders come together around a shared energy project—one that is close to them not only in a geographical sense, but also in a symbolic one. What truly distinguishes energy communities is the transformation of citizens' roles, from passive consumers who merely pay energy bills to active participants who jointly plan, make decisions, and share the benefits of energy projects within their community.



In this sense, energy communities also contribute to the democratization and decentralization of energy. This is reflected in the opportunity for citizens to participate in energy-related decisions previously reserved for large actors and centralized, closed processes, as some of these capacities and responsibilities are transferred to the local level. This creates space for the benefits of renewable energy sources to no longer remain solely on the balance sheets of large companies, but to be distributed among citizens and retained within the local community.

Beyond the economic and environmental benefits-which are perhaps the most evident-energy communities generate substantial social value. They bring people together around a common goal, strengthen trust within the community, and foster a culture of cooperation. Through joint planning and project management, citizens develop new knowledge and skills, local institutions learn to communicate and plan more openly, and the private and civil sectors discover new models of partnership. In this way, energy communities become platforms for learning, innovation, and greater citizen participation in decision-making, which is a key prerequisite for ensuring that Serbia's energy transition is socially just and sustainable in the long term.

# Q: How did the idea for this guide come about, and what is its core message? What challenges did you face while preparing the guide, and why did you decide to structure it in this way?

A: The idea for the guide emerged from the need for citizens at the local level to have allies in the energy transition. The first allies are neighbors and fellow citizens, while the second—equally important—are local self-government units, which have the competences and resources to initiate and support citizen energy



MARKO NEDELJKOVIĆ is a Project Manager at the Energy Transition Platform, where he leads projects focused on citizen energy and public participation in the energy transition. He is particularly dedicated to working with young people through the PET Youth Net program, which introduces students and young professionals to key topics in the energy transition. He has ten years of experience in the civil society sector, including work with the European Youth Parliament and debating clubs, with a strong focus on peer education and public advocacy.

projects, but often lack a clear understanding of where to start and what role they can assume.

As the Energy Transition Platform, we worked with citizens on concrete projects and listened closely to their expectations and needs. Three meetings were particularly important—in Vranje, Pirot, and the Medijana municipality of Niš—where we brought together the perspectives of citizens and local authorities and discussed how each bears a share of responsibility for a just transition at the local level. Based on these discussions, it became clear that local governments do not need yet another theoretical document, but rather a practical tool.

The Guide defines four mutually complementary roles of local self-government units (LSGUs):

- Policymaker and local regulator the LSGU sets the rules of the game and defines the strategic direction of the energy transition within its territory.
- **2.** Promoter and educator builds understanding, trust, and motivation among citizens and other stakeholders.
- **5.** Facilitator and coordinator assumes the operational role of connective tissue, transforming fragmented procedures into a coherent, meaningful workflow.
- 4 Partner and financial supporter through direct participation in projects sends a clear signal of trust and reduces risk for both investors and citizens.

The main challenge was to reconcile the diverse needs of cities and municipalities and to translate European experiences into our domestic legal and institutional framework. That is why the guide is structured as a portfolio of 22 support models, grouped into seven thematic areas and four roles of local self-government units. The core message is that there is no single universal solution, but rather a set of roles and steps that each local authority can adapt to its own capacities and ambitions.

Q: The Guide defines four roles of local self-government units (LSGUs): policymaker, promoter and educator, facilitator and coordinator, and partner and financial supporter. Could you explain the specific benefits each of these roles brings, and in which situations or for which types of local authorities certain roles might be the most suitable?

A: Although the Guide defines four roles of local self-government units, the key point is not which role delivers the greatest benefits, but rather that a city or municipality understands which role it is assuming at any given moment—and that this is clear both to citizens and to partners. Local self-government units are the level of governance closest to citizens, which is precisely why it is important for them to be able to "switch

hats" depending on the project phase and the community's needs.

Larger cities with more developed administrative capacities can more easily combine all four roles simultaneously. Smaller municipalities often begin with the roles of promoter and facilitator, gradually introducing the roles of partner and financial supporter as their capacities grow. The most important thing is for each local

authority to clearly distinguish these functions within its administration, to set equal conditions for all initiatives, and to remain consistent. When this is the case, each role can be fully realized, and in this way, local authorities are also best positioned to build their long-term capacities for future projects.

Q: The choice of the legal form of an energy community is highlighted as a very important step. Which criteria or recommendations can help local authorities make the right choice, and could you briefly explain which types of legal forms exist and how they differ? A: Choosing the legal form of an energy community is important because it affects governance structures, the way citizens are involved, and how benefits are distributed. However, I would argue that it is even more important for local authorities to first make a clear decision that they want to develop the energy community model as such.





Forms of association under the legal framework of the Republic of Serbia:

- RENEWABLE ENERGY COM-MUNITIES (RECs) – enable joint investment and energy sharing within the community.
- **2.** CITIZEN ENERGY COMMUNITIES (CECs) subject to stricter requirements; members are natural persons and small enterprises, with mandatory territorial proximity.
- LIMITED LIABILITY COMPANY (LLC) provides business flexibility and decision-making autonomy but does not offer specific privileges for renewable energy projects.
- **4.** ASSOCIATION not oriented toward commercial energy production, but focused on education, promotion, and advocacy of sustainable solutions.

challenging. Despite this, we should not resort to interim solutions that fail to deliver a genuine level of democratization. Instead, efforts should be directed toward models that guarantee long-term and meaningful citizen participation, even while we are still waiting for the administrative framework to be fully established.

Q: The Guide includes a catalogue of practical solutions and examples of support provided by local governments. Which of these solutions do you consider particularly useful, and why?

A: I would say that the key message of the Guide is precisely that citizen energy initiatives cannot be effectively supported by relying on a single model or a single role of local self-government units. In practice, a combination of multiple support models is always needed, applied at different stages and from the various roles that local authorities assume.

solutions are most relevant and useful for their own communities.

Q: Could you point to a successful example of an energy community from developed countries that could serve as inspiration for local governments in Serbia? What do you see as the key factors behind its success, and which lessons could be applied locally?

A: We do not have to look far to find good practice examples. A great example is the city of Križevci in Croatia, where a solar power plant was built on the roof of the municipal market and is fully owned by 127 residents. This project clearly illustrates how a city and its citizens can act as partners—a public resource (the roof) was made available for citizen energy, with a transparent distribution of benefits.

If we move slightly further west geographically, such examples become increasingly common. The level of detail in project preparation and evaluation is much higher, and the quality and longevity of energy communities demonstrate that this model can serve as a stable pillar of local energy transition.

Q: How do you see the future of energy communities in Serbia? What might be the biggest challenges, and what level of success could realistically be expected in the coming period?

A: We currently find ourselves somewhere between significant potential and tangible obstacles. The main challenges remain regulatory barriers and the lack of clear procedures. On the other hand, the potential success is very clear and measurable—the registration of the first officially recognized energy community in Serbia. This may sound optimistic, but I believe it is realistic to expect this to happen as early as next year. That would also be my New Year's wish for Serbia's energy transition.

Interview by Katarina Vuinac



In Serbia, the concept of citizen energy communities has only recently been incorporated into legislation, while the accompanying bylaws and administrative framework are still not fully in place

In Serbia, the concept of citizen energy communities has only recently been incorporated into legislation, while the accompanying bylaws and administrative framework are still not fully in place, which makes practical implementation more

Rather than highlighting a single "favorite" model, I encourage readers and representatives of local governments to download the Guide from the Energy Transition Platform's website, review the catalogue, and assess for themselves which



# MT-KOMEX BH BUILDS SOLAR POWER PLANT FOR COMPANY IN LAKTAŠI

solar power plant construction project for UNI-ON-FOODS from Laktaši was successfully completed by MT-KOMEX BH, using a turnkey delivery model. This approach covered all phases of development – from initial design and technical planning, through obtaining the required permits and coordinating with relevant authorities, to construction and preparation of the system for safe and efficient operation.

The rooftop surface on which the panels were installed is made of sandwich panels. It is a gable roof, with one side oriented toward the northwest and the other toward the southeast. The roof has a 10-degree slope, and an aluminum mounting structure was used.

For the MSE UNION-FOODS project, AIKO Solar panels with an individual capacity of 645 Wp were installed, totaling 185 panels, while two Huawei inverters were used.

"At the investor's request, we proceeded with the preparation of the

The MSE UNION-FOODS solar power plant was built on the roof of a facility with an area of approximately 690 square meters. The total installed capacity of the plant is 120 kWp

main design and the acquisition of all necessary approvals and construction permits. This represented the first phase of the project. The second phase included construction works, during which we installed photovoltaic panels on the rooftop surface located at a height of approximately nine meters. The third phase involved connecting all power plant components into a single integrated system: photovoltaic panels, inverters, DC circuits, and AC circuits," said Bojan Lazić, electrical engineer at MT-KOMEX BH.

For the purpose of grid connection, it was necessary to design and install four electrical cabinets: the main distribution cabinet of the power plant, the metering cabinet, the connection cabinet, as well as to replace the low-voltage cabinet of the

pole-mounted transformer station at the point of connection.

The final phase included testing of the power plant, technical inspections, obtaining grid connection permits, and concluding contracts for the supply and sale of electricity to the distribution network.

After signing all contracts and obtaining the required permits, the MSE UNION-FOODS solar power plant was commissioned in mid-November 2025 and has since been regularly supplying electricity to the grid.

This solar power plant, with full delivery of electricity to the distribution system, represents another example of successful project implementation contributing to the energy transition.

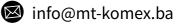
Prepared by Jasna Dragojević



- The company actively supports clients in preparing for the changes introduced by the CBAM mechanism, offering guidance in meeting new regulatory requirements through concrete steps and expert consulting.
- By transitioning to solutions that reduce carbon dioxide emissions, we help pave the way toward sustainable operations and the green transition.
- Our team of experts provides a comprehensive turnkey approach, covering every stage of the project from planning and power plant design, through equipment delivery and construction, to system functionality testing and maintenance.
- We believe that solar energy is the right solution for achieving energy independence see for yourself.











# CBAM AND THE ENERGY COMMUNITY: READINESS LEVEL OF THE REGION'S COUNTRIES

he European Union has decided to fully implement its
Carbon Border Adjustment
Mechanism (CBAM) as of
1 January 2026. The core principle of
CBAM is that every ton of carbon dioxide embodied in goods entering the
EU market will be priced. During the
transitional period, which runs until
the end of 2025, importers were required only to report emissions, without
any obligation to pay. However, the
collection of charges via CBAM certificates will begin soon.

For the countries that are Contracting Parties to the Energy Community—including Serbia, Bosnia and Herzegovina, Montenegro, North Macedonia, Albania, Moldova, Ukraine, Georgia, and Kosovo\*—this represents a major step, as CBAM covers not only carbon-intensive products such as steel and certain other goods,

The CBAM Regulation is based on the assumption that there is no practical way to simultaneously maintain full market coupling with the EU while selectively applying CBAM to electricity originating from a particular country

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<sup>\*</sup> This designation is without prejudice to status and is in line with United Nations Security Council Resolution 1244 and the Opinion of the International Court of Justice on Kosovo's declaration of independence.



but also electricity. Since the aim of the Energy Community is to extend EU energy and climate rules to these non-EU countries, electricity generated in coal- or gas-fired power plants and subsequently exported to the EU will no longer be able to enter the European market from 2026 without paying for the carbon footprint embedded in each megawatt-hour. As a result, issues of market integration and decarbonization have gradually become central topics for the entire region. All of this, and much more, is explained in the CBAM Readiness Tracker 2025 of the Energy Community Secretariat, which serves as the basis for the data presented here.

As noted in the report, two changes are being introduced initially. First, quarterly emissions reporting will be replaced by annual reporting.

faster than before, and CO<sub>2</sub> emissions per kilowatt-hour are gradually declining. On the other hand, coal-fired power plants still account for a significant share of electricity generation, while the accompanying legislation and emissions pricing systems remain far behind EU standards. CBAM will therefore, at least in its initial phase, result in additional costs for electricity exports from the region to the European Union.

The CBAM Regulation is based on the assumption that there is no practical way to simultaneously maintain full market coupling with the EU while selectively applying CBAM to electricity originating from a particular country. For this reason, the Regulation provides that electricity imports from a third country may be exempted from the obligation to

electricity from other countries that do not meet these conditions cannot enter the EU via its system.

Only once the European Commission, following a detailed assessment, confirms that all of these criteria have been fulfilled, can electricity from that country be exempted from the obligation to purchase CBAM certificates. In practical terms, this means that CBAM imposes not only a requirement of market integration but also a requirement to adopt robust climate policies. To date, only Montenegro has established its own emissions trading system (ETS). Ukraine plans to launch a pilot ETS phase in 2026. Other countries are generally considering introducing a carbon tax around 2027, with a later transition to an ETS, or have no concrete plans in place at all.

Significantly larger
volumes of electricity
flow through the
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Community countries
(particularly the
Western Balkans,
Ukraine, and Moldova)
toward the EU than
these countries
actually export



Second, importers into the EU will be required to purchase CBAM certificates to cover the emissions associated with the goods they import—including electricity, which is the focus of the analysis below. Certificates will be available for purchase from February 2027, but they will apply to emissions generated already during 2026, meaning there is no real grace period.

Energy Community countries find themselves in a specific situation. Wind and solar capacities are growing purchase CBAM certificates only if that country transposes the EU electricity market rules (Electricity Integration Package – EIP), becomes technically interconnected with the EU internal electricity market, adopts a long-term climate strategy and a climate law with the objective of achieving climate neutrality by 2050, introduces an emissions trading system (ETS) for the electricity sector with a CO<sub>2</sub> price broadly aligned with the EU ETS by 2030, and ensures that

At the same time, long-term climate strategies targeting climate neutrality by 2050 exist in only a few countries, while climate laws embedding this objective into national legislation have been adopted only in Ukraine and Moldova.

The CBAM Regulation also requires countries seeking an exemption to prepare a detailed roadmap. Given the complexity of an ETS and the time required to establish it, the report raises a very direct question:

whether the Energy Community Contracting Parties will realistically be able to meet this requirement within the prescribed timelines.

## Regional Electricity – Imports and Exports

Significantly larger volumes of electricity flow through the networks of Energy Community countries (particularly the Western Balkans, Ukraine, and Moldova) toward the EU than these countries actually export. Although the available data do not allow the precise origin of every megawatt to be identified, the system configuration clearly shows that the Western Balkans Six, surrounded by EU Member States, form a natural transit corridor for cross-border flows between different EU markets, as explained in more detail in the report. Ukraine and Moldova have been synchronized with the Continental European grid since 2022, while Georgia remains physically disconnected.

Data for 2024 show that almost none of the countries (except Bosnia and Herzegovina and, to some extent, Montenegro) recorded significant net electricity exports on an annual basis. However, scheduled commercial flows toward the EU are far larger than this modest level of exports, indicating that the vast majority of electricity passing through their systems is not domestic, but rather transit electricity from neighboring EU Member States.

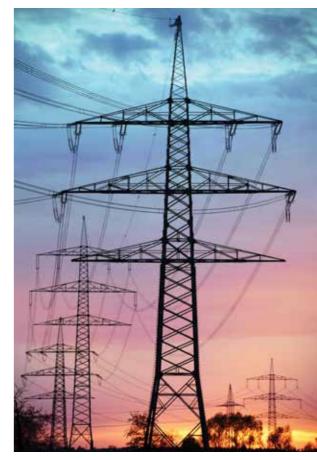
This is directly linked to the previously explained exemption framework, as the report emphasizes that, in order to apply CBAM rules correctly, the EU must clearly distinguish between: (1) actual commercial imports of electricity from a country that does not benefit from a CBAM exemption, and (2) electricity that merely transits through that country's network between two EU markets. This distinction is essential, among other reasons, to avoid imposing CBAM obligations on electricity



that the country in question does not produce at all. For this reason, the exemption conditions themselves place strong emphasis on rules to prevent circumvention and on the clear separation of transit flows from genuine exports.

Alongside regulatory reforms, the report also analyzes electricity flow patterns. Due to previously unfavorable hydrological conditions and increased domestic demand, most Energy Community countries became net electricity importers on an annual basis in 2024. Bosnia and Herzegovina was the exception, remaining the largest exporter, while Montenegro recorded only a small net export. Serbia registered net imports of approximately 520 GWh, according to the data (Table 3, page 13 of the report).

At the same time, the role of these countries as transit corridors between different EU markets is clearly evident. In 2024, as much as 9,181 GWh of scheduled commercial electricity flows toward EU Member States passed through Serbia—the highest volume in the region by a wide margin. This is followed by North Macedonia with 3,354 GWh, Montenegro with 3,042 GWh, Bosnia and Herzegovina with 2,158 GWh, Albania with 1,307 GWh, and Moldova with 188 GWh (Table 2, page 12



of the report). In principle, commercial flows do not indicate how much electricity a country has produced, but rather how much trading activity (contracts) has been registered across its borders.

When all figures are compared, it becomes clear that a substantial share of the electricity passing through





these systems is not of domestic origin. Serbia is a clear example of this pattern, as shown by the data above, and similar dynamics can be observed in North Macedonia, Montenegro, and Albania.

# Renewable Energy Development and Auctions as a Driving Force

By adopting National Energy and Climate Plans (NECPs), most Energy Community countries have formally accepted the 2030 renewable energy share targets set by the Ministerial Council. However, delays in adopting these plans have somewhat reduced investment certainty. Most countries have set targets at or slightly above the binding levels. At the same time, Serbia is the only country whose NECP sets a renewable energy share for 2030 at around seven percentage points below the mandatory level, as explained in the document itself. Bosnia and Herzegovina, Kosovo\*\*, and Montenegro have not yet adopted their NECPs, placing them among the countries with the longest delays in planning.

In the electricity sector, Albania, Bosnia and Herzegovina, Georgia, Montenegro, North Macedonia, and Serbia have recorded increases in the share of renewables, indicating the gradual integration of new wind and solar capacities into the energy mix. The most significant gap, however, remains in the transport sector. In heating and cooling, the picture is mixed: North Macedonia and Ukraine are well aligned with the targets set by the Renewable Energy Directive, Bosnia and Herzegovina and Serbia are close to these levels, while Montenegro represents a specific case—having exceeded a 60 percent renewable energy share in heating and cooling as early as 2020, it is, under EU rules, not required to set a new target for 2030.

The report emphasizes that the transition toward renewable energy increasingly relies on auctions as a modern support mechanism. Between September 2024 and 2025, an intense wave of auctions was recorded across the region. Amid the energy crisis, Moldova successfully conducted its first renewable energy auction, awarding 165 MW of solar and wind capacity, and is already preparing a second auction that will combine renewable projects with battery energy storage systems

(BESS). Following the adoption of its first standalone Renewable Energy Law in 2024, Montenegro launched its first solar auction in the summer of 2025, targeting up to 250 MW of new capacity.

During the same period, Serbia completed its second renewable energy auction, awarding 424.8 MW of solar and wind projects, with expected installations totaling around 650 MW. New qualification rules—based on the share of capacity allocated to the guaranteed supplier or directly to end customers—enabled more projects to enter the quota, increased the total planned capacity, and further stimulated the development of market-based power purchase agreements (PPAs). In contrast to these examples, two renewable energy auctions held in Ukraine were unsuccessful. At the same time, Bosnia and Herzegovina remains the only Contracting Party that has not yet launched renewable energy auctions, despite having an established legal framework.

Overall, the data confirm that auctions have become a key instrument for accelerating the energy transition within the Energy Community—while also highlighting that the pace of implementation varies significantly across countries.

Prepared by Milica Vučković

<sup>\*\*</sup> This designation is without prejudice to status and is in line with United Nations Security Council Resolution 1244 and the Opinion of the International Court of Justice on Kosovo's declaration of independence.

# FROM PLASTIC TO THE FULL SPECTRUM OF WASTE









# SOLAR RECYCLING CONTAINER – AN INNOVATION FROM BANJA LUKA

lastic waste has become one of the greatest environmental challenges of the modern era. Enormous quantities of plastic end up in landfills, where it takes hundreds of years to decompose, releasing harmful chemicals into soil and water, threatening wildlife, and entering the human food chain in the form of microplastics. Developed countries devote significant attention to this issue and operate modern sorting and recycling centers, enabling the majority of waste to be reused.

That the region can also serve as a role model in this field is

demonstrated by an innovation from Banja Luka, where a solar-powered recycling container has been designed and developed within the Center for Mechatronics and Technical Sciences.

The innovation, named Green Bin, has already traveled across the region. At the international Balkan Green Ideas competition held in Ohrid in November, it won first place for Bosnia and Herzegovina and was selected as one of the four best ideas among six Western Balkan countries. It was also presented at the threeday startup camp CampUP 2025 in Banja Luka, where it likewise won

first place. The project is expected to be presented at the Innovation Competition Serbia, and results are also awaited from the Regional Butterfly Innovation Award competition.

Marko Glišić, a mechatronics student at the University of Banja Luka and President of the Center for Mechatronics and Technical Sciences, told Energy Portal Magazine that the prototype of this container has been under development for around six months.

"My mother, who works as a project manager, suggested launching a youth-oriented initiative in front of the Center for Mechatronics and Technical Sciences, implemented by the KULT Institute in cooperation with the EU, to highlight the growing problem of plastic waste and offer a practical solution. My father, an electrical power engineer by profession, proposed a recycling container that would shred plastic bottles on-site, thereby significantly reducing waste volume and logistics costs.

Through further development of the idea, the recycling container was equipped with a solar panel, making it independent of existing infrastructure and providing an environmentally friendly way to power the shredding mechanism, as it uses renewable energy sources," Glišić explains.

### **How Green Bin Operates**

The container structure is made of steel tubes measuring 40 × 40 mm and 20 × 20 mm, clad in composite aluminum panels. The lower section also serves as the waste discharge opening and as a chamber for injecting argon gas.

The lid also functions as a mounting structure for the solar panels and can be rotated to ensure optimal solar energy capture.

Emptying is carried out either by lifting the container using the lifting hook or via side bars, in the same way as a conventional waste container. The shredding mechanism and the battery for electrical energy storage

are mounted and securely fixed inside the structure.

Green Bin operates fully autonomously thanks to its solar power supply.

- Users insert plastic bottles, which are then shredded, reducing the volume of waste several times over. This decreases the frequency of waste collection and lowers the operating costs for municipal utility companies, while the collected material can be further processed for recycling. Unpleasant odors from residual liquids in the bottles would be neutralized by injecting argon gas into the waste chamber. As argon is heavier than oxygen, it would inhibit further processes within the bottle contents, while unpleasant odors would remain trapped inside the argon-filled chamber. When inserting bottles into the shredding opening, users would not experience any unpleasant smells, explains Glišić.

In addition to reducing the costs associated with bulky plastic waste, the use of such containers promotes the circular economy and encourages compliance with European environmental protection and sustainable development standards.

## **Presentation**

The Green Bin project was first recognized and supported by the Institute for Youth KULT from Sarajevo. Through this initiative, cooperation was established with the Secondary Technical School in Banja Luka, which expressed interest and provided space for installing the recycling container, planned for the end of December.

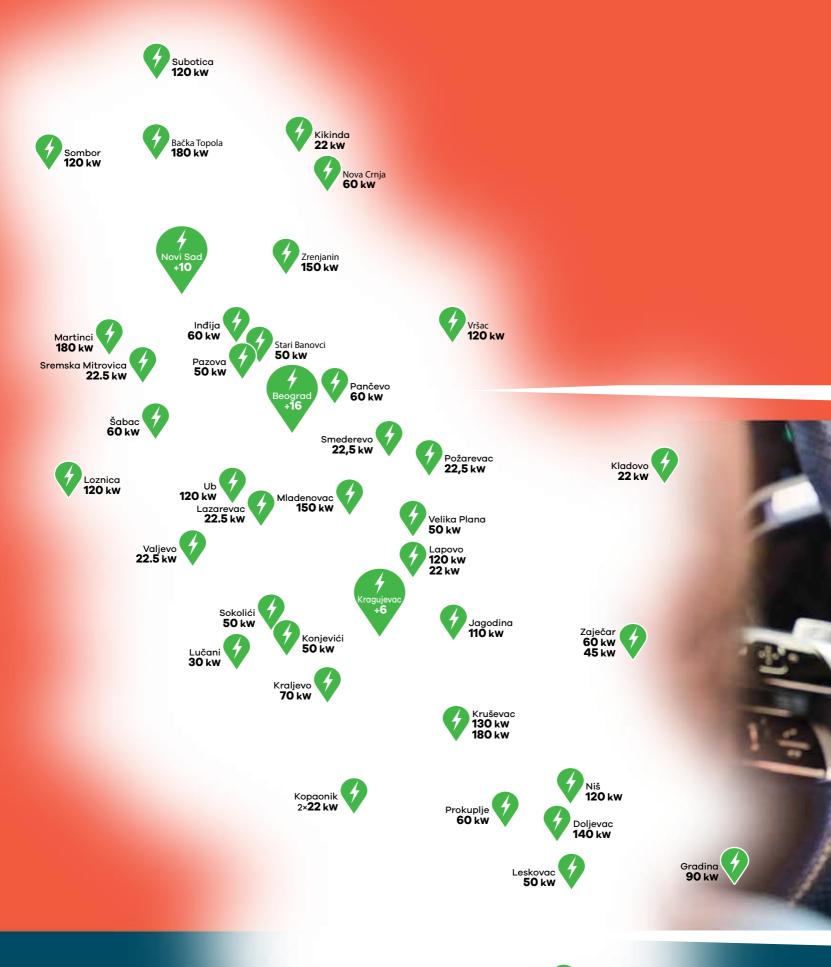
This invention is currently in the patenting process, with plans to expand the concept in the near future to address wastepaper, glass, and metal. Glišić expects that promoting the project at fairs and competitions will also attract potential investors.

Prepared by Jasna Dragojević





Users insert
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of waste
several
times over





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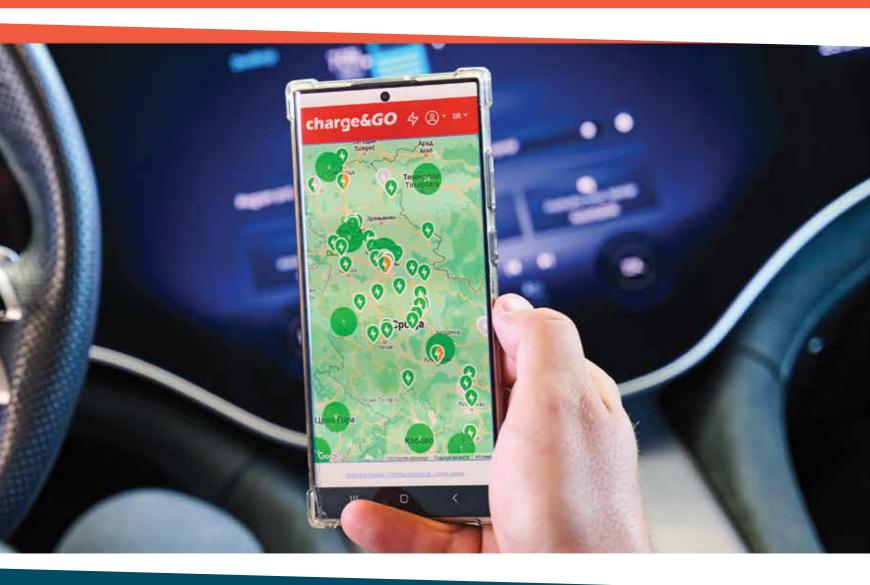
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## CEEFOR STRENGTHENS ITS OPERATIONS WITH TWO ADDITIONAL ISO CERTIFICATES

n today's business environment, the trust of clients, partners, and the wider community is built not only on the results a company achieves, but also on how it reaches those results. Expectations for companies have grown significantly – consistent quality and safety, responsible environmental stewardship, and a clearly demonstrated commitment to social responsibility are now essential.CEEFOR proudly announces that, following the previous three certifications issued by the certification body TMS (9001:2015; 14001:2015; 45001:2018), it has now obtained two additional ISO certificates—ISO 50001:2018 and ISO 27001:2022.

International ISO standards provide a framework for recognizing and validating specific business principles. They represent a global language of quality and reliability, shaped by experts from around the world, as well as manufacturers,

The trust of clients, partners, and the wider community is built not only on the results a company achieves, but also on how it reaches those results

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ISO 27001:2022, defines frameworks and best practices for information security and risk management related to data protection

suppliers, users, and professional associations that understand industry and market needs.

### ISO 50001:2018

One of the two newly obtained certificates-ISO 50001:2018-sets international standards for organizations seeking to improve energy efficiency and reduce energy consumption. Its implementation enables companies to systematically monitor their energy use, identify losses, and implement measures that generate savings. This not only results in direct financial benefits by reducing costs—although that is certainly one of the advantages-but also provides a significant contribution to environmental protection. In essence, the certificate guides and supports companies in aligning their operations with regulations

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ISO 50001

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while demonstrating responsibility toward sustainable development.

### ISO 27001:2022

second standard is ISO 27001:2022, which defines frameworks and best practices for information security and risk management related to data protection. The certificate confirms that the organization implements clear procedures to safeguard the confidentiality, integrity, and availability of the information it handles. This includes a wide range of measures-from technical solutions against cyberattacks and access control policies to plans for responding to security incidents. The standard is increasingly important in today's digital era, as it assures clients and partners that their data is processed responsibly and in compliance with international regulations such as the GDPR (General Data Protection Regulation) of the European Union. In this way, ISO 27001 serves as a key foundation for stable, secure operations in a highly digitalized society.

As stated by Miloš Saleta, Head of the Technical Administration Department and Chief Designer at CEEFOR, TMS will regularly monitor the implementation of procedures and conduct annual surveillance audits, with certificate renewal taking place after the third year.

"Certificates are not only confirmation that we operate in line with the highest standards—they also represent a commitment to maintain that level of excellence, supported by

ISO 50001:2018—
sets international
standards for
organizations seeking
to improve energy
efficiency and reduce
energy consumption



Miloš Saleta
Head of the Technical Administration
Department and Chief Designer at CEEFOR

regular audits conducted by the certification body," emphasized Miloš Saleta.

The International Organization for Standardization (ISO), founded in 1947, today brings together more than 170 members worldwide. ISO members are national standardization organizations, and each country has only one representative. Each of these organizations represents ISO at the national level. There are three categories of membership, each offering different levels of rights, access, and influence within the organization.

ISO standards cover various areas of business and offer companies a framework based on globally recognized guidelines and best practices. One of the major advantages of ISO certification is compliance with legal regulations across different countries, reducing the risk of penalties and legal uncertainty. At the same time, commitment to these standards strengthens the reputation of every certified organization. By obtaining ISO certifications, CEEFOR clearly demonstrates the values on which it intends to build its future development.

Prepared by Milica Vučković



## PAPER MAGIC: WHEN CREATIVITY BRINGS OLD BOOKS TO LIFE

t all began on a holiday evening, among old books that were waiting for their final journey to the recycling container. In those yellowed pages, Irena Popović found an idea — not in the text, but in the material itself. Wanting to decorate her home differently, she began experimenting with paper, shaping it and searching for forms that had existed only in her imagination.

She could not have imagined that a few simple decorations would bring so much delight to her family and friends, nor that this moment would mark the beginning of something greater. Today, Paper Magic stands behind hundreds of customers, a community that supports her work, and a mission that brings together art, sustainability, and humanity.

The real turning point came when her older son returned from his studies in England and saw what his mother was creating.

"He suggested that we open a Paper Magic page so that I could present my handmade creations to a wider audience," she says. The support of those closest



to her proved crucial — a hobby grew into a brand, and the brand into a community.

### **Art and Recycling Combined**

At the heart of this brand lies a clear environmental message: old books should not end up as waste.

"People often have old, damaged, or unwanted books they no longer use, and we give them new life by turning them into decorative objects," Irena explains.

Most of the materials come from donations — from friends, neighbors, and even complete strangers who want their books to continue living on. The rest are found at markets and flea markets, where copies that are no longer

"Many emphasize their delight with the attention to detail, the quality of craftsmanship, and the fact that each piece has its own story. A large number of customers return to purchase new products, which speaks to the trust we are building. In addition, word-of-mouth recommendations are very common, which for us is the best sign that the emotion and effort we invest reach those for whom the decorations are intended," says Irena, adding that her greatest reward is messages of gratitude and photos of the decorations in their new homes...

## When Decoration Becomes an Act of Kindness

Paper Magic is not just a brand — it is a bridge between art and humanity. A



suitable for reading are often discovered, yet are perfect for artistic transformation.

Although Irena does not use industrially recycled paper, her creations represent recycling in its noblest sense: they prevent waste, encourage creativity, and create added value.

Irena's decorations most often find their way to women who appreciate handicrafts, personalized gifts, and items that tell a story. This is precisely why customers frequently return. portion of the proceeds is donated to help abandoned animals, primarily dogs from local shelters.

"We collaborate with several organizations and individuals who actively care for abandoned and sick animals, collect food, cover veterinary expenses, and provide temporary shelter. Our goal is not only financial support but also raising awareness about the importance of caring for animals," Irena explains.

While the humanitarian aspect is not the primary reason customers

choose these products, as she notes, they are genuinely pleased to learn that their gift does double good. This sense of warmth further enriches every piece that comes out of her creative workshop.

Ahead of Irena are ambitious yet deeply personal plans. New collections are in preparation to accompany holidays and special occasions — from miniature Christmas trees to personalized inscriptions and themed decorations.

"We want Paper Magic to be not only a brand, but also a space for inspiration, connection, and learning," she says.

This is why she also plans to organize creative workshops in the future, where anyone can learn



paper-folding, cutting, and shaping techniques.

In a world striving for more sustainable habits and more conscious consumption, the story of Irena Popović stands as an example of how small, personal creativity can become a spark that changes one's surroundings.

Each of her creations carries a piece of something much greater: a love for detail, care for nature, and a desire to spread kindness.

Prepared by Milena Maglovski



## WHAT'S NEW IN THE ESG LANDSCAPE OF THE EUROPEAN UNION

n recent months, several decisions have been published that are reshaping the European approach to sustainability across various sectors, while some previously adopted measures will begin to apply in the new year. It appears that the European Union is simultaneously accelerating investments in new technologies, introducing controls on environmental marketing claims, adjusting regulatory frameworks to the economy, and continuing discussions on long-term climate objectives.

## **Unproven Carbon-Neutral Flights Under Scrutiny**

The European Consumer Organization (BEUC) has been challenging airline claims that flights can be sustainable. Following a 2023 complaint submitted to the European Commission and the Consumer Protection Cooperation Network (CPC), BEUC documented that messaging around carbon-neutral flights and the

All CO<sub>2</sub> calculations presented to passengers must be displayed clearly and transparently, ensuring that travelers understand what stands behind the figures shown for their flights



possibility of offsetting emissions through contributions for tree planting or alternative fuel development is, in effect, misleading to consumers.

In cooperation with its 23 national member consumer organizations, BEUC presented evidence that such claims violate EU rules on unfair commercial practices, as offsets do not actually eliminate emissions and sustainable aviation fuels account for only a symbolic share of overall fuel consumption. Their reports showed that greenwashing remained widespread, prompting an investigation and months-long dialogue with airlines.

The most recent outcome of this dialogue was published in a European Commission statement on 6 November 2025. According to the announcement, 21 European airlines have agreed to revise how they use environmental claims in their marketing.

## **Agreed Changes for Airlines**

As outlined in the Commission's communication, airlines must make clear that the CO<sub>2</sub> emissions of a given flight cannot be neutralized, directly reduced, or compensated simply through passengers' financial contributions to, for example, climate projects. This does not dispute the potential positive effects of such projects, but rather the notion that a single flight can thereby become emission–free or climate neutral, as emissions still occur.

Airlines will thus need to avoid vague green expressions—such as "eco-friendly travel"—or any wording that suggests a flight is significantly less harmful to the climate without adequate explanation and proof.

The use of the term sustainable aviation fuels (SAF) will be allowed, but must be accompanied by proper clarification and evidence. When referring to future goals, such as achieving net-zero emissions, airlines will be expected to specify timeframes

and, for example, the scope of emissions targeted.

Furthermore, all CO<sub>2</sub> calculations presented to passengers must be displayed clearly and transparently, ensuring that travelers understand what stands behind the figures shown for their flights. Ultimately, the burden of proof shifts to the companies, which must substantiate their environmental claims before presenting them publicly.

## Combating Misleading Green Claims

Another measure relevant to consumers is Directive (EU) 2024/825, published in 2024 and set to become mandatory across all EU Member States in September 2026. Through this directive, the European Union amends two existing regulations—Directive 2005/29/EC on unfair commercial practices and Directive 2011/83/EU on

consumer rights—to ensure that consumers can make truly sustainable and well-informed decisions.

Directive (EU) 2024/825 introduces additional rules to counter misleading green claims and marketing practices that mislead consumers into making incorrect choices. Practices such as intentionally shortening a product's lifespan to encourage more frequent purchases, using vague or inaccurate environmental assertions (greenwashing), providing false information about corporate social responsibility, or relying on unverified and unreliable sustainability labels are largely not accidental.

Advertising benefits that sound positive but are irrelevant to the product itself—and therefore capable of misleading consumers—will be prohibited. The examples cited in the directive clearly illustrate this: stating that a particular brand of bottled

Directive (EU) 2024/825 introduces additional rules to counter misleading green claims and marketing practices that mislead consumers into making incorrect choices





water is gluten-free, or that paper sheets contain no plastic, may be technically accurate, but such messages offer no real value to consumers. Instead, they create a false impression of distinction, even though the characteristics in question are common to all products of that type.

Strict rules are also being set for sustainability labels. Only labels issued by publicly available, credible certification schemes or by a public authority will be allowed. Each eco-label must have clear criteria, transparency, and independent verification of compliance to eliminate arbitrary, self-created eco-tags.

One common and particularly misleading practice addressed by the directive is presenting an entire product or company as environmentally responsible when, in reality, only a small portion of it is sustainable. The directive provides explicit examples: a product advertised as made from recycled materials when only the packaging is recycled, or a retailer

One common and particularly misleading practice addressed by the directive is presenting an entire product or company as environmentally responsible when, in reality, only a small portion of it is sustainable

that implies exclusive use of renewable energy while some of its facilities still operate on fossil fuels. Such practices will be considered deceptive in pursuit of a broader goal: preventing unsubstantiated green marketing.

## **Regulatory Easing**

Contrary to the common perception that the European Union continuously introduces new regulatory obligations, the Omnibus I package represents a phase of correction and adjustment to current economic conditions. Over the past years, companies, investors, and the public have warned that the scope of specific ESG regulations creates high costs and difficulties, particularly for small

and medium-sized enterprises. In response, the European Parliament endorsed several proposals to adjust the scope of certain rules to ease the regulatory burden on smaller economic actors.

In legislative terms, the essence of Omnibus I is to consolidate, within a single legislative package, amendments to the CSRD (Corporate Sustainability Reporting Directive), adjustments to the CSDDD (Corporate Sustainability Due Diligence Directive), and technical modifications to the CBAM (Carbon Border Adjustment Mechanism).

A particularly important part of the package concerns CBAM. One of the key updates is the introduction



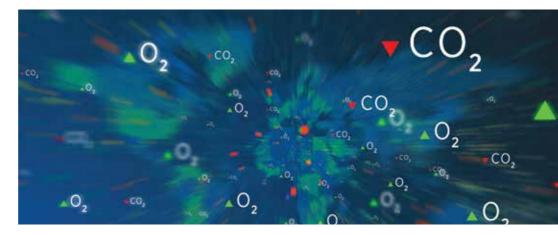
of a new exemption threshold of 50 tons per year for goods subject to CBAM. This means that companies importing less than this amount will be fully exempt from reporting obligations and from purchasing CBAM certificates. According to estimates by the European Commission, this amendment will relieve as many as 182,000 importers—primarily small and medium-sized enterprises and individual businesses—while still covering more than 99 percent of the emissions that CBAM is intended to regulate.

A Bridge Toward Climate Neutrality

At the beginning of November, the environment and climate ministers of EU Member States in the Council adopted a common position on amending the European Climate Law (ECL), which will guide their stan-

ce during negotiations with the European Parliament in the legislative process. The amendment introduces a mid-term target for 2040—reducing greenhouse gas emissions by 90 percent compared to 1990 levels. This establishes a bridge between the current goal of reducing emissions by at least 55 percent by 2030 and the EU's obligation to achieve complete climate neutrality by 2050.

However, alongside the targets, certain flexibility mechanisms have been included to ease the transition burden. These mechanisms would allow Member States to compensate for part of their remaining, hard-to-abate emissions in several ways: by using high-quality international carbon credits as offsets (up to a maximum of five percent of the reduction target, and only from 2036 onward,





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with a pilot phase in 2031–2035), which in practice means that domestic reductions would need to account for at least 85 percent; by relying on permanent carbon removals from domestic sources, which will be integrated into the EU Emissions Trading System (ETS) to address residual emissions that are technologically or economically the most difficult to reduce; and through enhanced cross-sector flexibility, enabling Member States to compensate slower progress in one area with faster progress in another.

In addition, the EU has left open the possibility of using an additional 5 percent of international credits in the future, which would allow the mandatory level of domestic emission reductions to fall below 85 percent. However, the potential application of these flexibilities will depend on whether a sufficient supply of high-quality, verified credits will actually be available on the international market.

Prepared by Milica Vučković







## NINA STANAREVIĆ DEDICATES HER ARTISAN CRAFT TO ECOLOGY AND SUSTAINABLE PRACTICES

ow everyday, previously used objects can be given a second life is something Nina Stanarević, a graphic designer and hand bookbinder from Banja Luka, demonstrates through her work every day. Her brand, Studio Tisa, is recognized for its commitment to ecology, sustainable practices, and minimalist design inspired by local cultural heritage.

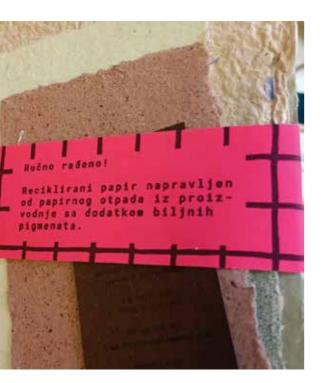
She has built her artisan craft on the principles of the circular economy, creating sketchbooks, journals, and photo albums from recycled, repurposed, and salvaged materials. The items are hand-bound, with wooden or textile covers; no glue is used in the construction, making the binding itself an integral and aesthetically meaningful part of the design.

Nina created her first pieces during her studies in 2012–2013, which sparked her passion for bookbinding. As she explains, the ability to creatively repurpose materials has been present from the very beginning.

"Operating according to the principles of the circular economy means that materials must remain in use—either as a product or, when they can no longer

Nina created her first pieces during her studies in 2012-2013, which sparked her passion for bookbinding. As she explains, the ability to creatively repurpose materials has been present from the very beginning

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serve their original purpose, as components or raw materials. This way, nothing becomes waste, while the product's and the material's essential value are preserved. In Studio Tisa, I continuously use other people's recycled waste as new raw materials, and I also transform my own waste in new ways. Nearly all parts of my products are fully recyclable," Stanarević explains.

Striving for the most sustainable business model possible, she typically uses repurposed textiles for covers, dyes them with natural pigments, and often applies patchwork techniques (joining smaller fabric pieces). She also sources recycled paper—and even produces her own from paper waste.

She dyes the covers using plants—ornamental, invasive, and medicinal species alike—and showed us

examples colored with dyes extracted from the root of the madder plant and with walnut-based pigments.

Her design portfolio also includes wooden items. Among them are bowls crafted from wood that originally served in the production of roulette wheels. These are just some of the sustainability practices she applies in both her business and her personal life.

Nina does not describe her work as revolutionary, as she draws inspiration from the past—from the resourcefulness of earlier generations who knew how to make the most of what they had. Still, it is undeniable that her creations are unique. When it comes to public awareness of such products, she notes that an increasing number of people want items made exclusively for them.

"I believe people have very quickly forgotten what handmade craftsmanship and small-scale production truly mean—and how much time, effort, and dedication are required to create something with one's own hands. A large part of my business, as well as my presence on social media and at ArtMarkets, is dedicated to educating the public and bringing them closer to handmade work and artisan crafts.

I've been active in DIY ArtMarkets and their communities for nearly 15 years, and I think interest is growing. It takes a great deal of effort to educate people. Still, I believe more and more of them want to hold a physical product again—and if that product is made especially for them, then the joy is immeasurable," Stanarević says.

To bring her craft closer to a broader audience, she often holds workshops organized by various institutions, covering a wide range of topics—from the basics of bookbinding to eco- and underconsumption–focused projects, papermaking, and more. Her greatest satisfaction, she says, comes from the act of creating itself—when she has the time and space to explore new things and enjoy the process.

She has been learning the craft through online resources and books since her university days, and her experimentation continues to this day. Her wish is for Studio Tisa to grow into a project that benefits the local community—a socio-cultural center offering workshops on eco-themes and crafts, a gallery, and perhaps even a café, as well as a place where older generations could mentor younger ones.

Prepared by Jasna Dragojević



## HIGHLIGHTS FROM ECOMONDO 2025

he four-day Ecomondo
2025—the leading European trade fair for the green,
blue, and circular economy, organized by the Italian Exhibition Group (IEG)—concluded on
7 November in Rimini, marking its
most successful edition to date.

This year's 28th edition of Ecomondo recorded a 7 percent increase in total attendance, while the number of international visitors grew by 10 percent. More than 1,700 exhibitors gathered across over 166,000 square meters, with nearly one-fifth coming from abroad. The event's dynamic atmosphere was further underscored by strong media interest—over 600 journalists were accredited, including a substantial number from international news outlets.

Once again, the fair served as a powerful hub for international business networking. Thanks to cooperation with the Italian Trade Agency (ITA) and the Ministry of Foreign Affairs and International Cooperation (MAECI), Rimini welcomed more than 800 buyers and delegations from 65 countries—from Spain and Türkiye, through Romania, Serbia, and Croatia, all the way to North African

nations. The outcome: 3,800 business matchings, reaffirming Ecomondo as one of Europe's most important hubs for the green economy.

## More Than 200 Events on Global Ecological Transition

Over the course of four days, more than 200 expert events were held, including 70 organized by the Technical and Scientific Committee, chaired by Professor Fabio Fava. The program covered the most current topics—from waste and critical raw material management, the development of a circular textile industry, and sustainable finance to artificial intelligence in resource management, bioenergy, and modern Earth observation technologies.

Particular attention was drawn to discussions on green policies in the Mediterranean region and the energy transition in Africa, including initiatives under the Mattei Plan, the Mission 300 program, and the fifth edition of the African Forum for Green Growth.

The 14th edition of the General States of the Green Economy was also held, featuring the presentation of the 2025 Green Economy Report. For the first time, the plenary session on the second day was conducted entirely in English, clearly highlighting the increasingly global dimension of the Ecomondo fair.

## Innovation as a Driver of Change

Ecomondo 2025 further strengthened its innovative character through the Innovation District—a dedicated area where 40 startups from Italy and abroad presented their projects. Among them were 20 innovative companies from Tunisia and Morocco, selected within the Luca Attanasio – Lab Innovates for Africa project.

The fair also hosted the awarding of the prestigious Lorenzo Cagnoni Prize for outstanding green innovations, with this year's laureates representing seven key sectors of sustainable development—one winner from each sector.

The next, 29<sup>th</sup> edition of the Ecomondo fair will take place from 3 to 6 November 2026 in Rimini. The event is expected to once again bring together the global community of leaders, innovators, and companies whose work is shaping a sustainable future.

Prepared by Milena Maglovski

## **DRIVING** THE ENERGY **TRANSITION**

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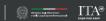
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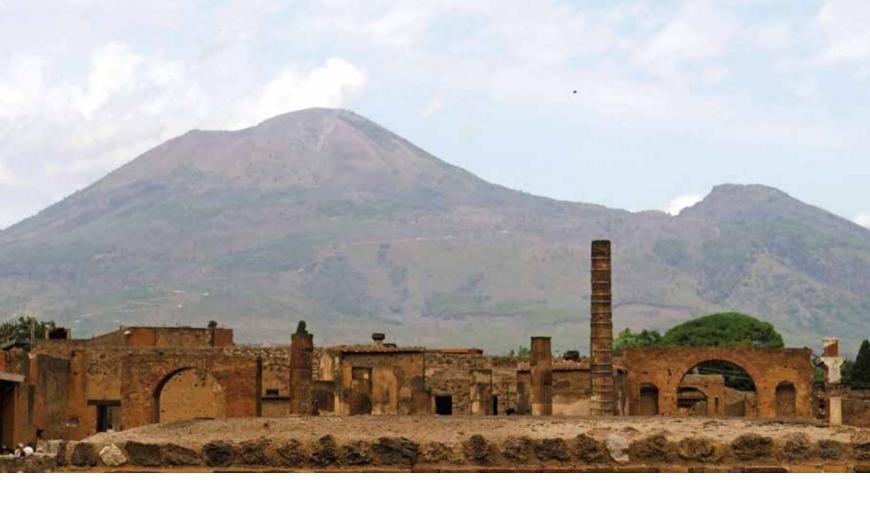






Simultaneously with





## THE INVISIBLE SOURCE OF SOLAR ENERGY FOR ANCIENT BUILDINGS

ow can we protect rich cultural heritage while simultaneously improving energy efficiency? Ancient buildings—and even entire historic cities—pose a unique challenge, as they require upgrades that must not alter their original appearance.

For this reason, at first glance, it may seem that little has changed in significant historical centers for centuries. Italy, a country where symbols of ancient Rome appear at every turn, has exceptionally well-preserved architecture, including traditional baked clay tiles (terra cotta), thanks to the enforcement of strict visual regulations. Even minor interventions require approval from the powerful state body, the local *Soprintendenza*. Within such a framework, modern technology often seems out of place—solar panels would likely disrupt the visual concept—yet many historic buildings remain energetically inefficient. However, hidden beneath clay tiles, an intriguing modern idea has taken root.

The goal was to design a building element that visually belongs to a historic setting while providing at least a modest source of clean energy in places where this was previously impossible



This is where Dyaqua comes in—a small, family-owned Italian company from Vicenza that has spent years developing materials suited for environments where integrating contemporary technologies is difficult. Their goal was not to create yet another solar panel, but to design a building element that visually belongs to a historic setting while providing at least a modest source of clean energy in places where this was previously impossible. This vision led to the development of Invisible Solar—a photovoltaic module not shaped like a panel, but like terracotta, stone, concrete, or wood.

Beneath the surface—opaque to the eye but permeable to sunlight lie monocrystalline silicon cells embedded in a unique, durable polymer material. This layer functions on the principle of low molecular density, allowing light to pass through the visible material while the cells beneath generate electrical energy. The material completely replaces a roof or façade tile, both in appearance and mechanical resistance. Although this is not the most efficient solar system on the market, its value lies in enabling energy production without compromising the identity of culturally significant spaces. Here, design, sustainability, and heritage do not conflict—they coexist harmoniously.

## A Project on Home Soil – The Archaeological Jewel of Pompeii

Although visitors may unknowingly walk right beside a solar installation that is visually undetectable, the first pilot installation of Invisible Solar tiles—type Coppo – Cotto Rosso—was installed in 2018 in the archaeological park of Pompeii, near the House of the Vettii. The 1 kWp system was set up as part of the Smart Archaeological Park program, a joint proje-

## The House of the Vettii (Casa dei Vettii)

One of the most famous Roman houses in Pompeii and a representative example of a luxurious urban villa from the 1st century CE. It was named after its owners—two brothers identified as freedmen who rose from the status of slaves to positions of significant social standing.

ct of the Ministry of Culture and the Italian National Research Council (CNR). The tiles are visually identical to the original Roman terracotta roofing, yet they generate electricity used to power infrastructure within the complex.

In addition to Pompeii, a 2 kWp Invisible Solar system was installed in 2022 on the roof of a theater building in Split. Although a system of this size likely covers only a small portion of the building's energy needs, its importance once again lies in the fact that solar technology can be applied in sensitive, protected locations.

For this reason, Italy's Ministry of Cultural Heritage recognized and referenced this "invisible solar energy" several years ago—an acknowledgment that, in practice, opened the door, at least to some extent, for the use of solar power in parts of cities where any alteration had previously been nearly impossible.

## The Example of Portugal

Italy is not the only place where a historic building has implemented such technology.

In Portugal, the city of Évora demonstrates how modern energy





In some Swiss mountain villages, rooftop solar modules are shaped to resemble slate tiles—thin, dark-gray natural stone plates traditionally used to cover Alpine houses.

The emphasis is on resemblance, since these modules mimic the color, form, and texture of slate, allowing them to blend into the environment, while still allowing recognition that

In some Swiss mountain villages, rooftop solar modules are shaped to resemble slate tiles—thin, darkgray natural stone plates traditionally used to cover Alpine houses

solutions can be integrated into strictly protected historical areas—UNESCO placed Évora on the World Heritage List in 1986. As one of the demonstrator cities of the European project POCITYF, Évora tested BIPV (Building-Integrated Photovoltaics) solutions adapted to areas with significant architectural constraints, as explained on the project's website.

Within this initiative, more than 3,350 invisible solar tiles from Vicenza were installed on the 15th-century Palace of the Counts of Sortelha, currently serving as the City Hall. The tiles were designed to faithfully reproduce the appearance of the traditional roofing material that once covered the palace, just as in the earlier examples. The work was completed in early 2024, and the palace now operates as a discreet solar power plant with a peak capacity of 25 kW—fully integrated into its original architectural style.



## A Similar, Yet Distinct Approach

Similar trends are emerging in Alpine regions, where solar technology is integrated in an unobtrusive way, though not necessarily entirely invisible as in the Italian examples or the projects in Pompeii and Évora.

the material is modern rather than original stone roofing. In other words, they are not replicas of historical materials, but they represent a meaningful step toward architecturally subtle and culturally sensitive adoption of renewable energy.

Prepared by Milica Vučković



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