



INTERVJU / INTERVIEW

AMBASADOR EVROPSKE UNIJE U SRBIJI

Emanuel Žiofre

AMBASSADOR OF THE EUROPEAN UNION TO SERBIA

Emanuele Giaufret

INTERVJU / INTERVIEW

VD DIREKTORA ELEKTRODISTRIBUCIJE SRBIJE

Bojan Atlagić

ACTING DIRECTOR OF THE ELECTRICITY
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Srbija dobija 600MW obnovljive energije

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GLAVNI I ODGOVORNI UREDNIK
Olivera Krstić
EDITOR IN CHIEF

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REČ UREDNIKA

EDITOR WORDS



Poštovani čitaoci,

Sa zadovoljstvom vas pozdravljamo u drugom broju magazina Green News, vašeg vodiča kroz svet obnovljivih izvora energije i zaštite životne sredine.

Dok svet postaje svesniji potrebe za očuvanjem prirode i prelaskom na održive izvore energije, energija vetra zauzima sam vrh liste rešenja za naše energetske potrebe. Ova nevidljiva snaga prirode postaje sve značajniji igrač u globalnoj tranziciji prema čistijem i održivijem energetskom sistemu. Predstavljamo kako se ovaj oblik energije koristi širom sveta, donoseći nam ne samo čistu energiju, već ekonomske i ekološke benefite. Upoznaćemo se sa najnovijim tehnološkim dostignućima, projektima velikih razmera i ljudima koji su strastveno posvećeni očuvanju naše planete.

Energija vetra postala je nezaobilazna komponenta globalnih napora za smanjenjem emisija štetnih gasova i prelazak na čistije energetske izvore. Istražujemo inovacije u dizajnu vetroturbina, analiziramo ekonomske aspekte energije vetra i razgovaramo sa stručnjacima koji dele svoje viđenje budućnosti ovog sektora.

Nećemo zaboraviti našu prirodnu sredinu, ističući kako izgradnja vetroparkova utiče na ekosistem, kao i načine na koje se postiže ravnoteža između održive energije i očuvanja biodiverziteta.

Srdačan pozdrav,
Olivera Krstić



Dear readers,

We are pleased to present you the second issue of GreenNews magazine, your guide through the world of renewable energy sources and environmental protection.

As the world becomes more aware of the need to preserve nature and switch to sustainable energy sources, wind energy is at the very top of the list of solutions for our energy needs. This invisible force of nature is becoming an increasingly important player in the global transition towards a cleaner and more sustainable energy system. We present how this form of energy is used around the world, bringing us not only clean energy, but also economic and environmental benefits. We will get acquainted with the latest technological achievements, large-scale projects and people who are passionately committed to preserving our planet.

Wind energy has become an indispensable component of global efforts to reduce greenhouse gas emissions and transition to cleaner energy sources. We explore innovations in wind turbine design, analyze the economic aspects of wind energy and talk to experts who share their vision for the future of the sector.

We will not forget our natural environment, highlighting how the construction of wind farms affects the ecosystem, as well as ways to achieve a balance between sustainable energy and biodiversity conservation.

Kind regards,
Olivera Krstić

Emanuel Žiofre

AMBASADOR EVROPSKE UNIJE U SRBIJI



EU PREGOVORI ĆE UČINITI SRBIJU ZELENIJOM

Srbija se modernizuje u svim oblastima i to uključuje, naravno, i zaštitu životne sredine i sve napore da se ublaže rezultati klimatskih promena kao i same klimatske promene

Emanuele Giaufret

AMBASSADOR OF THE EUROPEAN UNION TO SERBIA



EU negotiations will make Serbia greener





Emanuel Žiofre

AMBASADOR EVROPSKE UNIJE U SRBIJI



Foto: #EU za tebe

Da bi pomogla Srbiji da postane zelenija, EU je do sada uložila 582 miliona evra u zaštitu životne sredine, kaže ambasador Evropske unije u Srbiji, gospodin Emanuel Žiofre u ekskluzivnom intervjuu za Green News magazin.

GN *Kako ocenjujete važnost Evropskog zelenog dogovora u postizanju održivosti i klimatske neutralnosti u Evropi do 2050. godine?*

Ovo je izuzetno važno, zapravo ne može se dovoljno naglasiti koliko je značajna politika Zelenog sporazuma. Ovo je glavna politika EU koja obezbeđuje tri stvari. Prvo, cilj je da obezbedi nultu neto emisiju gasova staklene bašte do 2050. godine, posebno kroz Zakon o klimi EU, usvojen u martu 2020. godine. Drugo, Zeleni dogovor ima za cilj da obezbedi ekonomski rast odvojen od upotrebe resursa, tako da na kraju, i to je treći lajtmotiv Zelenog dogovora, nijedna osoba i nijedno mesto ne budu zapostavljeni. Evropska unija je odlučnija nego ikad da obezbedi prava na mir, pravdu, zaštitu svojih građana, da obezbedi čist vazduh, čistu vodu ili bezbednu hranu.

Zbog toga je EU posvećena poštovanju Pariskog sporazuma o klimi i usvojila je prvi evropski zakon o klimi, sa ciljem da smanji emisije EU za makar 55% do

2030. Radi dostizanja ugljenične neutralnosti 2050. godine i borbe protiv razornih efekata globalnog zagrevanja i zagađenja izazvanog ljudskim faktorom, usvojena je i uspešno se sprovodi strategija Zelenog dogovora. Ukratko, nije preterivanje reći da je Evropski zeleni dogovor jedan od najvažnijih dokumenata našeg vremena.

GN *Da li se može pretpostaviti uticaj Evropskog zelenog dogovora na promenu ekonomske prakse i efikasnosti u korišćenju resursa u Evropi?*

Treba znati da će EU smanjiti svoje neto emisije gasova sa efektom staklene bašte za makar 55% do 2030. godine, u poređenju sa nivoima iz 1990. godine, kako je dogovoreno EU Zakonom o klimi. Evropski zeleni dogovor pruža mapu puta sa akcijama za podsticanje efikasnog korišćenja resursa prelaskom na čistu, kružnu ekonomiju i zaustavljanje ili barem smanjenje klimatskih promena, preokret gubitka biodiverziteta i smanjenje zagađenja. On opisuje potrebne investicije i dostupne alate za finansiranje i objašnjava kako da se osigura pravedna i inkluzivna tranzicija. Evropski zeleni dogovor pokriva sve sektore privrede, posebno transport, energetiku, poljoprivredu, građevinarstvo i industrije kao što su čelik, cement, informaciono-komunikaciona tehnologija, tekstil i hemikalije.

Emanuele Giaufret

AMBASSADOR OF THE EUROPEAN UNION TO SERBIA



Serbia is modernising in all areas, including, of course, environmental protection and all efforts to mitigate the results of climate change, as well as taking action against climate change itself

In order to help Serbia become greener, the European Union has so far invested 582 million euros in environmental protection, says Mr. Emanuele Giaufret, the Ambassador of the European Union to Serbia, in an exclusive interview with Green News magazine.

GN *How do you assess the importance of the European Green Deal in achieving sustainability and achieving climate neutrality in Europe by 2050?*

This is of extremely high importance, it actually cannot be stressed enough how important Green Deal policy is. This is the number one EU policy ensuring three things. Firstly, it aims to ensure no net emissions of greenhouse gases by 2050, notably through the EU's climate law, adopted in March 2020. Secondly, the Green Deal is meant to assure economic growth decoupled from resource use so that in the end and that is the third leitmotif of European Green Deal no person and no place is being left behind. The European Union is more determined than ever to ensure rights to peace, justice, to protect its citizens, to provide with clean air, clean water, or safe food;

For that, the EU is committed to respect the Paris Agreement on Climate, and has adopted the first ever European climate law, with a goal of reducing EU emissions by at least 55% by 2030.

To further become carbon neutral in 2050 and fight against the devastating effects of human-induced global warming and pollution, the Green deal strategy was adopted and is being implemented successfully. So in summary it is not an exaggeration to say that the European Green Deal is the one of the most important documents of our time.

GN *Can the impact of the European Green Deal be assumed on changing economic practices and efficiency in the use of resources in Europe?*

You need to see that the EU will reduce its net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels, as agreed in the EU Climate Law.

The European Green Deal provides a roadmap with actions to boost the efficient use of resources by moving to a clean, circular economy and stop or at least reduce climate change, revert biodiversity loss and cut pollution. It outlines investments needed and financing tools available, and explains how to ensure a just and inclusive transition.

The European Green Deal covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals.

It goes without saying that economic practises and resources efficiencies will change, as a consequence. It is important to keep in mind that the cost of inaction would be greater.

Because Climate change and environmental degradation are an existential threat to Europe and the world. And thus the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring that one third of the €1.8 trillion investments from the Next Generation EU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal.

To put in motion the Green deal, the EU has adopted the Fit for 55 package, a set of proposals to revise and update EU legislation. That legislation will also have an impact and countries aspiring to join the EU like Serbia will of course also progressively have to align with such key EU legislation. But obligations come always with benefits and I would be glad if we could also see not only the downsides of things but what we are actually getting from the Green Deal.

The European Green Deal will improve the well-being and health of citizens and future generations by providing fresh air, clean water, healthy soil and biodiversity renovated, energy efficient buildings, healthy and affordable food, more public transport, cleaner energy and cutting-edge clean technological innovation, longer lasting products that can be repaired, recycled and re-used. The list of benefits is thus quite long.

GN *What exactly does the EU provide to Serbia in achieving its goals regarding the reduction of greenhouse gas emissions in accordance with the Paris Agreement?*

The EU is the biggest donor in Serbia. Support in the area of climate change mitigation ranges from policy dialogue on enlargement negotiations to investments, e.g. in renewable energy, but also regional cooperation in the framework of the Energy Community as well as the dedicated Green Agenda for Western Balkans.

The EU integration process as such is already a process through which Serbia turns greener. By doing the best to meet all the standards of the EU modernises itself across all areas and this includes of course also environmental protection and all efforts to mitigate climate change effects and climate change itself.

To help Serbia become greener, the EU has invested 582 million euros in environmental protection up to now. In recent years the EU built 10 wastewater treatment plants, 5 regional centres for waste management, 28 operational air quality control



Emanuel Žiofre

AMBASADOR EVROPSKE UNIJE U SRBIJI

Potrebno je zapaziti investicije EU u energetske sektor poput novog gasovoda koji podržava postepeno smanjenje zavisnosti zemlje od uglja

Podrazumeva se da će se kao posledica toga promeniti ekonomska praksa i efikasnost resursa. Važno je imati na umu da bi troškovi nedelovanja bili veći, jer klimatske promene i degradacija životne sredine predstavljaju egzistencijalnu pretnju Evropi i svetu. I tako će Evropski zeleni dogovor transformisati EU u modernu, resursno efikasnu i konkurentnu ekonomiju, osiguravajući da će jedna trećina investicija od 1,8 biliona evra iz Plana oporavka EU sledeće generacije („Next Generation EU“) i sedmogodišnji budžet EU finansirati evropski Zeleni dogovor.

Da bi pokrenula Zeleni dogovor, EU je usvojila paket Spretni za 55 („Fit for 55“), niz predloga za reviziju i ažuriranje zakonodavstva EU. To zakonodavstvo će naravno imati uticaja i na zemlje koje žele da se pridruže EU poput Srbije, naravno, takođe će progresivno morati da se usklade sa takvim ključnim zakonodavstvom EU. Ali uz obaveze uvek idu i pogodnosti i bilo bi mi drago da ne sagledamo samo nedostatke, već i ono što zapravo dobijamo od Zelenog dogovora.

Evropski zeleni dogovor poboljšaće blagostanje i zdravlje građana i budućih generacija obezbeđivanjem svežeg vazduha, čiste vode, zdravog zemljišta i obnovljenog biodiverziteta, energetske efikasne zgrade, zdrave i pristupačne hrane, više javnog prevoza, čistije energije i najsavremenije čiste tehnološke inovacije, dugotrajnijih proizvoda koji mogu da se poprave, recikliraju i ponovo koriste. Spisak pogodnosti je stoga prilično dugačak.

GN Šta tačno EU pruža Srbiji u ostvarenju njenih ciljeva u pogledu smanjenja emisije gasova sa efektom staklene bašte u skladu sa Pariskim sporazumom?

EU je najveći donator u Srbiji. Podrška u oblasti ublažavanja klimatskih promena kreće se od političkog dijaloga o pregovorima o proširenju do investicija, npr. u obnovljive izvore energije, ali i regionalne saradnje u okviru Energetske zajednice kao i namenske Zelene agende za Zapadni Balkan.

Proces EU integracije kao takav je proces kroz koji Srbija već postaje zelenija. Čineći sve najbolje da ispuni sve standarde EU, Srbija se modernizuje u svim oblastima i to uključuje, naravno, i zaštitu životne sredine i sve napore da se ublaže rezultati klimatskih promena kao i same klimatske promene.

Da bi pomogla Srbiji da postane zelenija, EU je do sada uložila 582 miliona evra u zaštitu životne sredine. Poslednjih godina EU je izgradila 10 postrojenja za prečišćavanje otpadnih voda, 5 regionalnih centara za upravljanje otpadom, 28 operativnih stanica za kontrolu kvaliteta vazduha. Važno je napomenuti ulaganje EU u energetske sektor poput novog gasovoda koji podržava postepeno smanjenje zavisnosti zemlje od uglja. Biće manje emisija i manje

zagađenog vazduha zahvaljujući našim projektima vezanim za gasovod.

I to nije sve: Evropska komisija je krajem juna pokrenula novi finansijski paket za podršku 14 vodećih investicija u oblasti transporta, energetike, životne sredine, ljudskog kapitala i podrške privatnom sektoru na Zapadnom Balkanu, u ukupnoj vrednosti od 2,1 milijardi evra. Na primer, sanacija Hidroelektrane Bistrica ili projekat energetske efikasnosti za kampus tehničkih fakulteta u Beogradu.

GN Na koji način Srbija, uzimajući u obzir njene specifične okolnosti i resurse, može doprineti ostvarenju globalnih i evropskih ciljeva postavljenih kroz Evropski zeleni dogovor?

Svaka zemlja je jedinstvena po specifičnim okolnostima i resursima. Srbija nije izuzetak koji je potrebno izdvojiti. U svakom slučaju, Zeleni dogovor se odnosi na celu Evropu a ne samo na EU. EU ne može samostalno ostvariti svoj cilj. Zagađenje i klimatske promene ne priznaju granice. Na primer, nekoliko najzagađujućih elektrana na uglj u Evropi nalazi se na Zapadnom Balkanu, važno je napomenuti da je Srbija svojim Nacionalno utvrđenim doprinosima postavila svoje ciljeve za smanjenje gasova sa efektom staklene bašte (smanjenje od 33,3% do 2030. godine u odnosu na nivo iz 1990. godine). Srbija se takođe obavezala da prati Zeleni dogovor kroz proces pristupanja EU i da se uključi u sveobuhvatne reforme u svim sektorima.

GN Koje su zemlje i regioni već postigli značajan napredak u postizanju ciljeva Evropskog zelenog dogovora i smanjenju emisija? Kako se njihova iskustva mogu primeniti u drugim delovima sveta?

U četvrtom kvartalu 2022. godine, emisije gasova sa efektom staklene bašte u ekonomiji EU iznosile su 938 miliona tona ekvivalenta CO₂ (CO₂-eq), što je smanjenje od 4% u poređenju sa istim kvartalom 2021. godine (978 miliona tona CO₂-eq).

Ovo smanjenje prati određeni ekonomski oporavak, što pokazuje povećanje bruto domaćeg proizvoda (BDP) EU od 1,5% u četvrtom kvartalu 2022. godine, u poređenju sa istim kvartalom 2021. godine.

Takođe je pozitivno da su se u poređenju sa četvrtim kvartalom pre pandemije 2019. godine emisije gasova sa efektom staklene bašte u ekonomiji EU smanjile za 6% (sa 994 na 938 miliona tona ekvivalenta CO₂).

Emisije su u četvrtom kvartalu 2022. smanjene u skoro svim zemljama EU u poređenju sa istim kvartalom 2021.

Među zemljama EU koje su smanjile emisiju gasova staklene bašte, najveći pad je zabeležen u Sloveniji (-15,9%), Holandiji (-9,9%) i Slovačkoj (-6,9%).

Od 23 zemlje EU koje su zabeležile smanjenje emisija, samo 5 je zabeležilo smanjenje svog BDP-a



Emanuele Giaufret

AMBASSADOR OF THE EUROPEAN UNION TO SERBIA



Foto: #EU za tebe

stations. And you need to see the EU investments in the energy sector like a new gas pipeline supports the coal phase-out of the country. There will be less emissions and less polluted air thanks to our gas pipeline projects.

And there is more: at the end of June, the European Commission launched a new financial package to support 14 investment flagships in transport, energy, environment, human capital, and private sector support in the Western Balkans, worth, in total €2.1 billion. For instance, rehabilitation of hydropower plant Bistrica, or the Energy Efficiency project for the Campus of Technical Faculties in Belgrade.

GN In what way can Serbia, taking into account its specific circumstances and resources, contribute to the achievement of global and European goals set through the European Green Deal?

Each country is unique and has specific circumstances and resources. Serbia is not an exception to be singled out.

In any case the Green Deal is European and not an EU one. The EU can't achieve its goal in isolation. Pollution and climate change do not know borders. For example, several of the most polluting coal power plants in Europe are located in the Western Balkans. It is important to mention that Serbia has set its own targets through its Nationally Determined Contributions for GHG reduction (33.3% decrease

by 2030 compared to 1990 levels). Serbia has also committed to follow the Green Deal through the EU accession process, and engage into comprehensive reforms in all sectors. Serbia is modernising in all areas, including, of course, environmental protection and all efforts to mitigate the results of climate change, as well as taking action against climate change itself.

GN Which countries and regions have already made significant progress in achieving the goals of the European Green Deal and reducing emissions? How can their experiences be applied in other parts of the world?

In the fourth quarter of 2022, the EU economy greenhouse gas emissions totalled 938 million tonnes of CO₂-equivalents (CO₂-eq), a 4% decrease compared with the same quarter of 2021 (978 million tonnes of CO₂-eq).

This decrease is accompanied by some economic rebound, as shown by the 1.5% increase in the EU's gross domestic product (GDP) in the fourth quarter of 2022, compared with the same quarter of 2021.

It is also positive that compared with the pre-pandemic fourth quarter of 2019, EU economy greenhouse gas emissions decreased by 6% (from 994 to 938 million tonnes of CO₂-eq).

Emissions in the fourth quarter of 2022 decreased in almost all EU countries when compared with the same quarter of 2021.



Emanuel Žiofre

AMBASADOR EVROPSKE UNIJE U SRBIJI



Foto: #EU za tebe

(Estonija, Luksemburg, Litvanija, Finska i Švedska), što znači da je većina uspela da smanji emisije i poveća svoj BDP.

GN *Koji su glavni ciljevi i prioritete strategije zaštite životne sredine u Srbiji, usklađeni sa pristupom sličnim onome u EU? Koje su ključne oblasti ili izazovi posebno naglašeni u tim planovima?*

Kao što je već pomenuto, Srbija pregovara o članstvu u EU i stoga treba da se uskladi sa EU u svim oblastima, a to uključuje, naravno, i sve propise predviđene u velikom pravilniku EU koji nazivamo pravnim tekovinama EU. Srbija se poboljšava pokušavajući da ispuni evropske standarde. Progresivno usklađivanje sa pregovaračkim poglavljem 27 - poglavljem o životnoj sredini - biće najbolji pokret Srbije u pravom smeru. Da bi se to dogodilo, moramo da vidimo punu političku posvećenost u pristupu „cele vlade“, a energetski sistem bi trebalo reformisati, omogućavajući veću konkurenciju i zelenija rešenja.

Srbija se modernizuje u svim oblastima, uključujući, naravno, zaštitu životne sredine i sve napore za ublažavanje posledica klimatskih promena, kao i preduzimanje mera protiv samih klimatskih promena.

GN *Koje konkretne mere i politike smatrate ključnim za suočavanje sa sve ozbiljnijim posledicama klimatskih promena u regionu?*

Trebalo bi razmišljati u smislu „otvorenog

ekosistema“, a ne vertikalnog mandata institucija, poboljšati saradnju i koordinaciju između svih aktera lokalne uprave koja bi trebalo da saraduje sa svim relevantnim akademskim institucijama i sektorom civilnog društva. To je institucionalna strana. Što se tiče konkretnih akcija, moramo videti akcije koje smanjuju emisije gasova sa efektom staklene bašte, usvajanjem jasne strategije napuštanja uglja i smanjenje zavisnosti od fosilnih goriva planiranjem Ugljenične neutralnosti 2050. u skladu sa ciljevima EU. Znam da ovo zvuči najvažnije i da ovo može zvučati kao nešto što sam jedino izneo kao zahtev Zapadnom Balkanu. To naravno nije tačno. To moramo da uradimo svi mi širom sveta.

GN *Kakav je vaš stav o balansiranju ekonomske eksploatacije prirodnih resursa sa zaštitom ekosistema?*

To nije stav, to se nalazi u svakom delu zakonodavstva iz Zelenog dogovora gde se ovo razmatra. Moramo da balansiramo između zaštite ekosistema i eksploatacije prirodnih resursa koji su važni za našu ekonomiju i zelenu tranziciju. Na primer, privredne aktivnosti su dozvoljene na područjima Natura 2000, ali ako se poštuju određeni kriterijumi. Dakle, odgovor nije tako direktan.

Odluka o korišćenju prirodnih resursa ostaje izbor za svaku zemlju, ali mogu vam reći šta je EU pristup. Evropska komisija je podnela Zakon o kritičnim sirovinama koji je usvojen u martu i definiše sveobuhvatan skup akcija za bezbedno,

GN ►►



Emanuele Giaufret

AMBASADOR OF THE EUROPEAN UNION TO SERBIA

It is important to note EU investments in the energy sector, such as the new gas pipeline, which supports the gradual reduction of the country's coal dependency

Among the EU countries that reduced greenhouse gas emissions, the largest decreases were registered in Slovenia (-15.9%), the Netherlands (-9.9%) and Slovakia (-6.9%).

Of the 23 EU countries that saw a decrease in emissions, only 5 recorded a decrease in their GDP (Estonia, Luxembourg, Lithuania, Finland, and Sweden), meaning most managed to decrease emissions while growing their GDP.

GN *What are the main goals and priorities of the environmental protection strategy in Serbia, aligned with an approach similar to that in the EU? What key areas or challenges are particularly emphasized in those plans?*

Well as mentioned already Serbia is negotiating EU membership and thus should align itself with the EU across all areas and that includes of course also all the regulations foreseen in the big EU rulebook which we call the *acquis de l'UE*. By trying to meet EU standards Serbia improves. Progressive alignment with the negotiation chapter 27 – the chapter which is about the environment – will be the best drive for Serbia in the right direction. In order for that to happen we need to see full political commitment in a “whole of government” approach, and the energy system needs to be reformed., allowing for more competition and more green solutions.

GN *What specific measures and policies do you consider to be crucial for dealing with the increasingly serious consequences of climate change in the region?*

One needs to think in terms of an „open ecosystem“ and not vertical mandate of institutions, improve cooperation and coordination between all actors and governments needs to work also with all relevant academic institutions and the civil society sector. This is the institutional side. In terms of concrete actions we need to see actions which reduce green house gas emissions, by adopting a clear coal exit strategy, and reduce dependency on fossil fuels while aiming at Carbon neutrality 2050 in line with EU goals. I know this sounds all paramount and this may sound as something that I put forward as a demand only to the Western Balkans. That is of course not true. All of us around the world need to do this.

What is your position on balancing the economic exploitation of natural resources with ecosystem protection?

It is not a position, it is in each piece of legislation from the Green Deal where this is looked at. We need to balance between the protection of the ecosystems and the exploitation of natural resources that are important for our economy and the green transition.

For example, economic activities are allowed in Natura 2000 sites but if certain criteria are respected. So not a straight forward answer.

The decision of exploiting natural resources remains a choice for each country, but I can tell you what is the EU approach. The European Commission submitted the Critical Raw Materials Act which was adopted in March and defines a comprehensive set of actions for secure, diversified, affordable and sustainable supply of critical raw materials to support our climate ambitions. Respecting the highest level of environmental standards and improving circularity and sustainability of critical raw materials are key aspects of the proposal. Improved security and affordability of critical raw materials supplies must go hand in hand with increased efforts to mitigate any adverse impacts, both within the EU and in third countries with respect to labour rights, human rights and environmental protection. Efforts to improve sustainable development of critical raw materials value chains will also help promoting economic development and sustainability governance in third countries.

We also want to further develop Strategic Partnerships with third countries as a general framework for cooperation on critical raw materials in line with the EU's ambition for more resilient and sustainable supply-chains towards a green and digital transition. It is mutually beneficial to integrate the Western Balkans into such supply-chains and to modernise and make the local extractive industry more sustainable, but also to develop a full value chain that can bring large benefits to the economy. The signing of a letter of intent on a strategic partnership between the EU and Serbia on critical raw materials and batteries represents an important step towards creating a sustainable and competitive e-mobility ecosystem in Serbia. This decade is a momentous one. The ongoing green and digital transitions will determine the destiny of the European Union, Serbia and all economies around the world, for the rest of the century. We are pleased that Serbia is committed to taking advantage of its enormous potential in the transformation of the world economy. Related investments in raw materials, batteries, and e-mobility will boost economic development and help Serbia deliver on its social agenda by creating growth and clean, well paid jobs. This partnership will also help strengthen the already close political and economic ties between the EU and Serbia.

GN *What support measures can the EU offer to reduce air pollution and improve air quality in urban areas?*

Again the Green Agenda is key and should be implemented actively by all institutions and society

GN ►►



Emanuel Žiofre

AMBASADOR EVROPSKE UNIJE U SRBIJI

Evropska komisija je krajem juna pokrenula novi finansijski paket za podršku 14 vodećih investicija u oblasti transporta, energetike, životne sredine, ljudskog kapitala i podrške privatnom sektoru na Zapadnom Balkanu, u ukupnoj vrednosti od 2,1 milijardi evra

raznoliko, pristupačno i održivo snabdevanje kritičnim sirovinama kako bi podržali naše klimatske ambicije. Ključni aspekti predloga su poštovanje najvišeg nivoa ekoloških standarda i poboljšanje kružnosti i održivosti kritičnih sirovina. Poboljšana sigurnost i pristupačnost zaliha kritičnih sirovina moraju ići ruku pod ruku sa povećanim naporima da se ublaže bilo kakvi štetni uticaji, kako unutar EU, tako i u trećim zemljama u pogledu radnih prava, ljudskih prava i zaštite životne sredine. Napori da se poboljša održivi razvoj lanaca vrednosti kritičnih sirovina takođe će pomoći u promociji ekonomskog razvoja i upravljanja održivošću u trećim zemljama.

Takođe, želimo da dodatno razvijamo strateška partnerstva sa trećim zemljama kao opšti okvir za saradnju u oblasti kritičnih sirovina u skladu sa ambicijom EU za otpornijim i održivijim lancima snabdevanja ka zelenoj i digitalnoj tranziciji. Uzajamno je korisno integrisati Zapadni Balkan u takve lance snabdevanja i modernizovati i učiniti lokalnu ekstraktivnu industriju održivom, ali i razviti kompletni lanac vrednosti koji može doneti velike koristi ekonomiji. Potpisivanje pisma o namerama za strateško partnerstvo između EU i Srbije o kritičnim sirovinama i baterijama predstavlja važan korak ka stvaranju održivog i konkurentnog ekosistema e-mobilnosti u Srbiji. Ova decenija je značajna. Tekuće zelene i digitalne tranzicije će odrediti sudbinu Evropske unije, Srbije kao i svih ekonomija širom sveta do kraja veka. Zadovoljstvo nam je što je Srbija posvećena ideji da iskoristi svoj ogromni potencijal u transformaciji svetske ekonomije. Povezane investicije u sirovine, baterije i e-mobilnost će podstaći ekonomski razvoj i pomoći Srbiji da ostvari svoju socijalnu agendu stvaranjem rasta i čistih, dobro plaćenih radnih mesta. Ovo partnerstvo će takođe pomoći u jačanju već bliskih političkih i ekonomskih veza između EU i Srbije.

GN *Koje mere podrške EU može ponuditi za smanjenje zagađenja vazduha i poboljšanje kvaliteta vazduha u urbanim sredinama?*

Zelena agenda je ovde ključna i sve je ovde već sadržano, a Srbija se na neki način tome već obavezala kroz Zelenu agendu za Zapadni Balkan. EU pruža političke savete i tehničku pomoć Srbiji radi postizanja ovih ciljeva. Već sam spomenuo niz projekata i sredstava usmerenih u tom pogledu.

GN *Koje inicijative planirate da podržite za poboljšanje*

Potpisivanje pisma o namerama za strateško partnerstvo između EU i Srbije o kritičnim sirovinama i baterijama predstavlja važan korak ka stvaranju održivog i konkurentnog ekosistema e-mobilnosti u Srbiji

infrastrukture za reciklažu i odlaganje otpada?

Kada je u pitanju odlaganje otpada, odvajanje otpada i reciklaža, vodimo projekat pod nazivom Inicijativa odvajamo. Ovaj projekat realizujemo zajedno sa Ministarstvom zaštite životne sredine kao i uz podršku naše države članice Švedske u 17 opština Srbije. U junu, na primer, u opštinama koje učestvuju u projektu, ukupno je preko 760 tona otpada preusmereno sa deponija! Dakle, ovo ide prilično dobro i ponosno sarađujemo sa Ministarstvom u pogledu promocije reciklaže i odgovornog upravljanja otpadom. Odvajanje otpada počinje u domaćinstvu, a ne u kontejneru na ulici. Odvajanje otpada počinje u domaćinstvima i na poslu, isto kao i na ulicama gde su velike kante za smeće označene bojama kako bi se otpad pravilno odvajao. Mi radimo promotivne kampanje u tom pogledu.

A kada je u pitanju infrastruktura za odlaganje otpada mogu spomenuti predstojeći projekat u Novom Sadu i širem okruženju.

EU će uložiti 37,5 miliona evra sredstava za sufinansiranje izgradnje integrisanog regionalnog sistema upravljanja otpadom u Novom Sadu i sedam opština Vojvodine, odnosno Bačkoj Palanci, Bačkom Petrovcu, Beočinu, Žablju, Srbobranu, Temerinu i Vrbasu. Investicija će omogućiti prikupljanje, odvajanje izvora, reciklažu, transport, tretman i odlaganje otpada na sanitarnu deponiju, u skladu sa najvišim standardima zaštite životne sredine EU. Očekujemo da će Srbija započeti ovaj projekat 2024. godine.

GN *Kako planirate da pomognete podizanju svesti građana o važnosti zaštite životne sredine i aktivnom učešću u zelenim inicijativama?*

Ozelenjavanje ekonomije takođe znači ozelenjavanje mentaliteta, pa pozivam sve čitaoce da prate diskusije o životnoj sredini, energiji, klimi, oko Zelenog dogovora koji će pružiti odličnu osnovu za bolje razumevanje i bolje delovanje jer svetu je potreban aktivni angažman svih nas.. Želimo da vidimo u narednoj godini kako možemo da se posvetimo našim komunikacionim naporima kako bismo se najbolje pozabavili pitanjem povećanja energetske efikasnosti u domaćinstvima. Podrška organizacijama civilnog sektora i nezavisnim medijima takođe podržava zaštitu životne sredine jer su ovi akteri veoma posvećeni ovim temama. **GN**

Emanuele Giaufret

AMBASSADOR OF THE EUROPEAN UNION TO SERBIA



Foto: #EU za tebe

as a commitment to international action for climate and environmental protection. The EU provides policy advice and technical assistance to Serbia to achieve these goals. I mentioned already a number of projects and funds committed in this regard.

GN *What initiatives do you plan to support to improve recycling and waste disposal infrastructure?*

Well when it comes to waste disposal, waste separation and recycling we run a project called the Odvajamo initiative. We implement this project together with the Ministry for Environment as well as through the support of our member state Sweden in 17 municipalities of Serbia. In June, for instance, in the project municipalities, a total of over 760 tons of waste was diverted from a landfill! So this is going quite well and we are also proudly partnering with the Ministry in regard to the promotion of recycling and responsible waste management. Waste separation starts in the households and at work, the same in the streets where large trash bins are colour-coded to separate waste correctly. Thus the citizens are needed to separate their waste at home. We do campaigns to promote this.

And when it comes to waste disposal infrastructure I can mention an upcoming project in Novi Sad and beyond.

The EU will invest EUR 37.5 million of funds to co-finance the construction of an integrated regional waste management system in Novi Sad and seven municipalities in Vojvodina, namely Bačka Palanka, Bački Petrovac, Beočin, Žabalj, Srbobran, Temerin and Vrbas. The investment will enable collection, source separation, recycling, transport, treatment, and disposal of waste on the sanitary landfill, in line with the highest EU environmental standards. We expect that Serbia will start this project in 2024.

GN *How do you plan to help raise citizens' awareness of the importance of environmental protection and active participation in green initiatives?*

Greening the economy also means greening the mentalities so I invite all the readers to follow the discussions in environment, energy, climate, around the Green Deal which will provide excellent basis to understand better and act better as the world needs us all to be actively engaged. We want to see in the next year how we can commit ourselves in our communication efforts how we can best tackle the issue of increasing energy efficiency in households.

Support to CSOs and to independent media outlets also support environmental protection as these actors are very committed to these subjects. **GN**

Giganti čiste energije

TOP 10

Clean Energy Giants



Polovina ovih impresivnih projekata nalazi se u Sjedinjenim Američkim Državama, dok se ostali prostiru od Indije, preko Kine, sve do Velike Britanije

U oblasti obnovljive energije, vetrofarme su postale ključni izvor čiste električne energije. Predstavljamo vam deset najvećih vetrofarmi koje igraju vitalnu ulogu u smanjenju emisija ugljenika i promociji održivih energetske prakse širom sveta. Polovina ovih impresivnih projekata nalazi se u Sjedinjenim Američkim Državama, dok se ostali prostiru od Indije, preko Kine, sve do Velike Britanije.



Half of these impressive projects are located in the United States of America, while the rest stretch from India, through China, all the way to Great Britain

In the field of renewable energy, wind farms have become a key source of clean electricity. We present to you ten largest wind farms that play a vital role in reducing carbon emissions and promoting sustainable energy practices around the world. Half of these impressive projects are located in the United States of America, while the rest stretch from India, through China, all the way to Great Britain.

1

Jiuquan Wind Power Base



Na vrhu liste je Jiuquan Wind Power Base, takođe poznat kao Gansu Wind Farm, smešten u provinciji Gansu, Kina. Ovaj gigant ima planiran kapacitet od neverovatnih 20 GW, sa 7.000 vetrogeneratora koji će se prostirati kroz provincije Unutrašnja Mongolija, Jiuquan, Jiangsu, Shandong, Hebei i Xinjiang.



At the top is Jiuquan Wind Power Base, also known as Gansu Wind Farm, located in Gansu Province, China. This giant has a planned capacity of whopping 20 GW, with 7,000 wind turbines which will spread across the provinces of Inner Mongolia, Jiuquan, Jiangsu, Shandong, Hebei and Xinjiang.

2

Jaisalmer Wind Park



Na drugom mestu nalazi se Jaisalmer Wind Park u Indiji sa kapacitetom od 1.600 MW. Razvijen od strane Suzlon Energy, ova vetrofarma se nalazi u slikovitom okrugu Jaisalmer u Radžastanu, gde su brojne vetrofarme postavljene kako bi iskoristile kontinuirane vetrove ovog regiona.



In second place is the Jaisalmer Wind Park in India with a capacity of 1,600 MW. Developed by Suzlon Energy, this wind farm is located in the picturesque Jaisalmer district of Rajasthan, where numerous wind farms have been set up to take advantage of the region's continuous winds.

3 Alta Wind Energy Centre



Prelazimo u Sjedinjene Američke Države gdje se nalazi Alta Wind Energy Centre u Kaliforniji sa operativnim kapacitetom od 1.548 MW. Ova vetrofarma je postala operativna 2011. godine i predstavlja dokaz posvećenosti ove zemlje energiji vetra, koristeći kombinaciju GE i Vestas vetrogeneratora.

We move to the United States where the Alta Wind Energy Center is located in California with an operating capacity of 1,548 MW. This wind farm became operational in 2011, and represents evidence of the country's commitment to wind energy, using a combination of GE and Vestas wind generators.

6 Roscoe Wind Farm



U srcu Teksasa nalazimo Roscoe Wind Farm koja pokriva 400 km² poljoprivrednog zemljišta i proizvodi značajnih 781,5 MW električne energije. Vlasnik i operater ovog ogromnog projekta je nemačka kompanija E.ON Climate and Renewables, a izgradnja je završena u četiri faze između 2007. i 2009. godine.

In the heart of Texas we find Roscoe Wind Farm which covers 400 km² of agricultural land and produces significant 781.5 MW of electricity. The owner and operator of this huge project is the German company E.ON Climate and Renewables, and construction was completed in four phases between 2007 and 2009.

4 Muppandal Wind Farm



Ponovno se vraćamo u Indiju gdje Muppandal Wind Farm zauzima četvrtu poziciju sa impresivnim kapacitetom od 1.500 MW. Smestivši se u Kanyakumari okrugu u Tamil Nadu, zemljišta oko Muppandala se tokom devet meseci godišnje pretvaraju u raj za vetroenergiju, što ga čini idealnim za razvoj vetrofarmi.

We return again to India where Muppandal Wind Farm occupies the fourth position with an impressive capacity of 1,500 MW. Located in Tamil Nadu's Kanyakumari district, the land around Muppandal turns into wind power paradise for nine months of the year, making it ideal for wind farm development.

7 Horse Hollow Wind Energy Centre



Još jedna dragulj Teksasa, Horse Hollow Wind Energy Centre, sa kapacitetom od 735,5 MW, snabdeva električnom energijom oko 180.000 domaćinstava. Kompletna izgradnja ovog vetroparka je obavljena u četiri faze tokom 2005. i 2006. godine, što dokazuje predanost Lone Star države održivoj energiji.

Another gem of Texas, the Horse Hollow Wind Energy Centre, with a capacity of 735.5 MW, supplies electricity to about 180,000 households. The complete construction of this wind farm was completed in four phases during 2005 and 2006, demonstrating the Lone Star State's commitment to sustainable energy.

5 Shepherds Flat Wind Farm



Peta najveća vetrofarma na svetu je Shepherds Flat Wind Farm sa kapacitetom od 845 MW u Oregonu. Razvijen od strane Caithness Energy, ovaj projekat je postao operativan u septembru 2012. godine i sastoji se od 338 GE 2.5XL vetrogeneratora.


The fifth largest wind farm in the world is Shepherds Flat Wind Farm with a capacity of 845 MW in Oregon. Developed by Caithness Energy, this project became operational in September 2012 and consists of 338 GE 2.5XL wind turbines.

8 Capricorn Ridge Wind Farm




Nastavljajući niz Teksasa, Capricorn Ridge Wind Farm ima ukupan kapacitet od 662,5 MW, postignut u dve faze između 2007. i 2008. godine. Ovaj projekat sadrži 342 GE 1,5 MW vetrogeneratora i 65 Siemens 2,3 MW vetrogeneratora, što ga čini značajnim doprinositeljem čistoj energiji.


Continuing the Texas streak, Capricorn Ridge Wind Farm has a total capacity of 662.5 MW, achieved in two phases between 2007 and 2008. This project features 342 GE 1.5 MW wind turbines and 65 Siemens 2.3 MW wind turbines, making it a significant contributor to clean energy.

 Ovo takmičenje jedno je od najvažnijih na svetu, jer nas sve više pomiče ka idealu kojem težimo - čistijoj i održivijoj budućnosti


TOP 10

 This competition is one of the most important in the world, because it moves us more and more towards the ideal we strive for - a cleaner and more sustainable future


9 Walney Extension Offshore Wind Farm

 Na drugoj strani Atlantika, Walney Extension Offshore Wind Farm predstavlja svdočanstvo britanske predanosti obnovljivoj energiji. Sa ukupnim kapacitetom od 659 MW, ovaj projekat, smešten u Irskom moru, snabdeva električnom energijom preko 600.000 domaćinstava u Velikoj Britaniji, zahvaljujući 40 MHI Vestas i 47 Siemens Gamesa vetrogeneratora.




 On the other side of the Atlantic, Walney Extension Offshore Wind Farm is a testament to Britain's commitment to renewable energy. With a total capacity of 659 MW, this project, located in the Irish Sea, supplies electricity to over 600,000 UK households, thanks to 40 MHI Vestas and 47 Siemens Gamesa wind turbines.

10 London Array Offshore Wind Farm

 London Array Offshore Wind Farm je najveća vetrofarma na moru na svetu, sa impresivnim kapacitetom od 630 MW. Smešten u Temskom zalivu, projekat je razvijen od strane kompanija Dong Energy, E.ON i Masdar, sadrži 175 Siemens 3,6 MW vetrogeneratora.



 London Array Offshore Wind Farm is the largest offshore wind farm in the world, with an impressive capacity of 630 MW. Located in the Bay of Thames, this project, developed by Dong Energy, E.ON and Masdar, contains 175 Siemens 3.6 MW wind turbines.



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Revolucija u proizvodnji čiste energije

Napredak u tehnologiji vetroelektrana i opadanje cena proizvodnje električne energije iz ovih izvora doprinose sve većem prihvatanju vetroenergije u našoj zemlji

Advances in wind power technology and decline of electricity production prices from these sources contribute to the growing acceptance of wind energy in our country

Revolution in Clean Energy Production





Vetroparkovi, ili „farme vetra”, predstavljaju ključnu komponentu tranzicije ka čistijem i održivijem energetsom sektoru, igrajući važnu ulogu u smanjenju emisije ugljen-dioksida i očuvanju životne sredine.

Ovaj fenomen nije novijeg datuma, vetar kao izvor energije koristi se vekovima. U Persiji, današnjem Iranu, energija vetra koristila se za pogon mlinova, predstavljajući pionirski trenutak u primeni ovog resursa. Međutim, tek sa otkrićem elektromotora u 19. veku počela je ozbiljnija eksperimentacija u proizvodnji električne energije putem vetra.

Danas, vetroparkovi širom sveta igraju ključnu ulogu u proizvodnji električne energije. Prema izveštaju Svetske asocijacije za energiju vetra za 2020. godinu, ukupan godišnji kapacitet vetroparkova dostigao je impresivnih 774 gigavata, što pokriva sedam odsto globalne potražnje za električnom energijom. Kina prednjači u proizvodnji struje putem vetra sa čak 290 gigavata, dok je Nemačka lider u Evropi sa 62.7 gigavata električne energije dobijene iz ovog izvora.

POTENCIJAL OD 2,5 GIGAVATA

U Srbiji, prvi koraci ka korišćenju energije vetra napravljeni su u prelazu između prve i druge decenije ovog veka. Nakon usklađivanja zakonodavstva 2014.

godine, Srbija je postavila devet vetroelektrana sa ukupnim godišnjim kapacitetom od oko 400 megavata. Ova postrojenja uglavnom se nalaze u Banatu i Istočnoj Srbiji, regijama sa povoljnim uslovima za energiju vetra.

Analize su pokazale da Srbija ima potencijal za instalaciju vetrogeneratora od čak 2,5 gigavata. Ovo bi moglo značiti znatno smanjenje cena električne energije za domaćinstva ukoliko se obnovljivi izvori energije integrišu na odgovarajući način u energetske sisteme.

Međutim, postoji izazov.

Da bi vetroparkovi bili uspešni, moraju biti povezani sa elektroenergetskom mrežom, a to zahteva da svaki operator vetroparka plati određeni iznos Elektroprivredi Srbije za pristup mreži. Ovaj trošak može značajno opteretiti obnovljive izvore energije i potencijalno smanjiti njihovu konkurentnost na tržištu.

POTREBAN JE ENERGETSKI MIKS

Kritičari tvrde da trenutna praksa u Srbiji ne podržava potpunu integraciju obnovljivih izvora energije. Navode da se za integraciju u sistem sagoreva dodatna količina uglja u termoelekttranama, što dovodi do povećanja zagađenja vazduha i ekonomskih gubitaka. Za održavanje stabilnosti mreže, blokovi termocentrala moraju ostati aktivni čak i kada se energija iz obnovljivih izvora isporučuje,



Wind farms, or wind parks, represent a key component of the transition to a cleaner and more sustainable energy sector, playing an important role in reducing carbon dioxide emissions and preserving the environment.

This phenomenon is not recent, wind as a source of energy has been used for centuries. In Persia, today's Iran, wind energy was used to drive mills, representing a pioneering moment in the application of this resource. However, it was not until the discovery of the electric motor in the 19th century that more serious experimentation began in the production of electricity through the wind.

Today, wind farms around the world play a key role in the production of electricity. According to the World Wind Energy Association's 2020 report, the total annual capacity of wind farms reached impressive 774 gigawatts, covering seven percent of global electricity demand. China leads the way in the production of electricity through wind with as much as 290 gigawatts, while Germany is the leader in Europe with 62.7 gigawatts of electricity obtained from this source.

2.5 GIGAWATT POTENTIAL

In Serbia, the first steps towards the use of wind energy were made between the first and second decades of this century. After harmonizing the

legislation in 2014, Serbia installed nine wind farms with a total annual capacity of about 400 megawatts. These plants are mainly located in Banat and Eastern Serbia, regions with favorable conditions for wind energy.

Analyses have shown that Serbia has the potential to install wind generators of up to 2.5 gigawatts. This could mean a significant reduction in electricity prices for households if renewable energy sources are properly integrated into the energy system.

However, there is a challenge.

Wind farms have to be connected to the power grid in order to operate successfully, and this requires each wind farm operator to pay a certain amount to the Electric Power Company of Serbia for access to the grid. This cost can significantly burden renewable energy sources and potentially reduce their competitiveness in the market.

AN ENERGY MIX IS NEEDED

Critics claim that the current practice in Serbia does not support the full integration of renewable energy sources. They state that additional amount of coal is burned in thermal power plants for integration into the system, which leads to an increase in air pollution and economic losses. To maintain grid stability, power plant blocks must remain active even when energy from renewable sources is being

Srbija razmatra mogućnost šireg korišćenja **solarnih panela** i **solarnih elektrana** kao dodatnog koraka **u diversifikaciji** svog energetskeg miksa

Srbia is considering the possibility of wider use of **solar panels** and **solar power** plants as an additional step **in diversifying** its energy mix



a ovo dodatno opterećuje životnu sredinu i povećava troškove.

Iako su obnovljivi izvori energije načelno podržani i ciljevi za smanjenje emisije ugljen-dioksida postavljeni, ključno je obezbediti integrisani efikasne energetske sistem koji će koristiti obnovljivu energiju kao prioritet, a ne kao dopunu. To zahteva napore u rešavanju izazova povezanih sa povezivanjem na mrežu, diverzifikacijom energetskog miksa i postepenim napuštanjem fosilnih goriva.

Vetroparkovi u Srbiji predstavljaju ključnu komponentu tranzicije ka održivom energetskom sektoru. Potencijal ovog izvora energije je značajan, ali za potpuno ostvarenje tog potencijala potrebno je rešiti izazove povezane sa povezivanjem na mrežu i diverzifikacijom energetskog miksa. Ovo će omogućiti Srbiji da ostvari svoje ciljeve u vezi sa smanjenjem emisije ugljen-dioksida i postane lider u proizvodnji električne energije iz obnovljivih izvora.

ŠIRE KORIŠĆENJE SOLARNIH PANELE I ELEKTRANA

Dok trenutno važeći zakon dodeljuje tu odgovornost Elektroprivredi Srbije, stručnjaci razmatraju opciju da proizvođači preuzmu tu ulogu kako bi se tržište učinilo ravnopravnijim.

Srbija takođe razmatra mogućnost šireg korišćenja solarnih panela i solarnih elektrana kao dodatnog koraka u diversifikaciji svog energetskog miksa.

Nova zakonodavstva i investicije u obnovljive izvore energije ukazuju na interesovanje za zeleni energetski sektor u zemlji.

S obzirom na očekivani rast vetroenergetike i širenje drugih obnovljivih izvora, naša država se priprema za energetske tranziciju koja bi donela ekonomske i ekološke koristi kako za građane, tako i za privredu zemlje.



delivered, and this further burdens the environment and increases costs.

Although renewable energy sources are supported, and targets for reducing carbon dioxide emissions have been set, it is crucial to ensure an integrated efficient energy system that will use renewable energy as a priority, not as a supplement. This requires efforts in overcoming challenges associated with grid connectivity, diversification of the energy mix, and phasing out of fossil fuels.

Wind farms in Serbia represent a key component of the transition towards a sustainable energy sector. The potential of this energy source is significant, but for the full realization of that potential, it is necessary to overcome challenges associated with connecting to the grid and diversifying the energy mix. This will enable Serbia to achieve its goals related to the reduction of carbon dioxide emissions and become a leader in the production of electricity from renewable sources.

USE OF SOLAR PANELS AND POWER PLANTS

While the currently valid law assigns this responsibility to the Electric Power Company of Serbia, experts are considering the option for manufacturers to take on this role in order to make the market more equal. Serbia is also considering the possibility of wider use of solar panels and solar power plants as an additional step in diversifying its energy mix.

New legislation and investments in renewable energy sources indicate interest in the green energy sector in the country.

Considering the expected growth of wind energy and the expansion of other renewable sources, our country is preparing for an energy transition that would bring economic and environmental benefits for both citizens and the country's economy.



NAJVEĆI VETROPARK U REPUBLICI SRBIJI Kovačica THE BIGGEST WIND PARK IN SERBIA

Iako Srbija trenutno raspolaže sa devet vetroparkova, čije su instalisane snage ukupno oko 500 megavata, što čini svega jedan procenat ukupne energetske proizvodnje, stručnjaci veruju da će se situacija brzo promeniti. Procenjuje se da će do 2030. godine udeo električne energije proizvedene iz vetroparkova dostići dvocifreni procenat, možda čak i 10-15%.

Jedan od najvećih vetroparkova u Srbiji je vetropark Kovačica, koji se nalazi u Banatskoj ravničarskoj regiji. Ovaj vetropark trenutno ima 38 vetrogeneratora sa ukupnom instalisanom snagom od 104,5 megavata i može da snabdeva 68.000 domaćinstava električnom energijom godišnje. Osim što minimalno utiče na životnu sredinu, vetropark Kovačica se ističe i kao primer efikasne upotrebe prostora, jer ne zahteva krčenje šuma i ne ometa migraciju ptica.

Međutim, dok se vetroparkovi smatraju obećavajućim izvorom obnovljive energije, postoje i ekološke zabrinutosti. Stručnjaci ističu potrebu za kumulativnim procenama uticaja vetroelektrana na životnu sredinu, posebno u vezi sa potencijalnim opasnostima po ptice i slepe miševе.

Napredak u tehnologiji vetroelektrana i opadanje cena proizvodnje električne energije iz ovih izvora doprinose sve većem prihvatanju vetroenergije u Srbiji. Trenutno je cena proizvodnje iz vetroelektrana značajno niža nego pre dve decenije, čineći je ekonomski konkurentnom u odnosu na tradicionalne izvore energije poput termoelektrana.

Srbija se suočava sa potrebom za prilagođavanjem svojih energetskih zakonodavstava kako bi se omogućilo ravnotežno uključivanje vetroenergije u energetske mikse. Ključno pitanje ostaje ko će biti odgovorna strana za balansiranje varijabilne proizvodnje električne energije iz vetroelektrana i drugih obnovljivih izvora.



Although Serbia currently has nine wind farms with a total installed capacity of around 500 megawatts, which is only one percent of the total energy production, experts believe that the situation will change quickly. It is estimated that by 2030, the share of electricity produced from wind farms will reach a double-digit percentage, perhaps even 10-15%.

One of the largest wind parks in Serbia is the Kovačica wind park, which is located in the Banat lowland region. This wind farm currently has 38 wind generators with total installed power of 104.5 megawatts and can supply 68,000 households with electricity per year. In addition to having a minimal impact on the environment, the Kovačica wind farm also stands out as an example of efficient use of space, as it does not require deforestation and does not interfere with bird migration.

However, while wind farms are considered a promising source of renewable energy, there are also environmental concerns. Experts emphasize the need for cumulative assessments of the environmental impact of wind farms, especially in relation to the potential dangers to birds and bats.

Advances in wind power technology and declining prices for electricity production from these sources contribute to the growing acceptance of wind energy in Serbia. Currently, the cost of production from wind farms is significantly lower than two decades ago, making it economically competitive compared to traditional energy sources such as thermal plants.

Serbia faces the need to adjust its energy legislation in order to enable a balanced inclusion of wind energy in the energy mix. The key question remains who will be responsible for balancing the variable production of electricity from wind farms and other renewable sources.

Bojan Atlagić

VRŠILAC DUŽNOSTI DIREKTORA ELEKTRODISTRIBUCIJE SRBIJE

Energetska infrastruktura za snažan razvoj Srbije

U razgovoru za GREEN NEWS prvi čovek Elektrodistribucije Srbije, govorio je o najvažnijim projektima, investicijama koje kao operator distributivnog sistema realizuje da osigura stabilno napajanje i koracima koje je nacionalna elektrodistribucija preduzela da ubrza i olakša priključenje prozjumeru na mrežu



Pouzdana i kvalitetna isporuka električne energije jedan je od preduslova za ekonomski razvoj države i bolji život građana, jer stvara stabilnu osnovu za pokretanje novih projekata, modernizaciju i izgradnju strateške infrastrukture.

Elektrodistribucija Srbije aktivno je uključena u sve velike razvojne projekte od posebnog značaja za našu državu, jer bez pristupa distributivnoj mreži i sigurnog napajanja električnom energijom nema uspešne realizacije. Novi autoputevi, brza pruga, nove moderne fabrike stranih investitora, data centar, stadioni, neki su od strateških objekata za koje Elektrodistribucija Srbije obezbeđuje energetska mrežu i na taj način daje značajan doprinos privrednom razvoju Srbije. Samo u izgradnju novih i rekonstrukciju postojećih elektroenergetskih objekata za priključenja novih pogona stranih investitora Elektrodistribucija Srbije uložice više od pet milijardi dinara sopstvenih sredstava. Obezbedili smo i napajanje više od 20 novih fabrika u poslednjih pet godina i preko 200 kilometara autoputeva - rekao je Bojan Atlagić, v. d. direktora Elektrodistribucije Srbije.

U razgovoru za GREEN NEWS prvi čovek Elektrodistribucije Srbije, govorio je o najvažnijim projektima, investicijama koje kao operator distributivnog sistema realizuje da osigura stabilno napajanje i koracima koje je nacionalna elektrodistribucija preduzela da ubrza i olakša priključenje prozjumeru na mrežu.

GN Poseban zadatak Elektrodistribucije Srbije je da omogući pristup distributivnom sistemu za sve infrastrukturne objekte. Koji su najvažniji projekti u kojima trenutno učestvujete?

Stručnjaci Elektrodistribucije Srbije uključeni su u svaku investiciju za koju je potrebno obezbediti

napajanje električnom energijom sa distributivne mreže, a to su sve fabrike, putevi, objekti, pruge. Dajemo tehničke uslove, gradimo trafostanice, priključke, energetske vodove. Samo za prvu deonicu brze pruge Beograd-Novi Sad-Subotica izgradili smo elektroenergetsku infrastrukturu (trafostanice, priključno-razvodna postrojenja, srednjenaponske i niskonaponske vodove) i priključili železničke stanice i tunel Čortanovci na srednjem naponu i veliki broj objekata na niskom naponu. Sada se intenzivno radi na deonici od Novog Sada do Subotice. U taj projekat su uključena tri ogranka Elektrodistribucije Srbije - Novi Sad, Sombor i Subotica. Prati se dinamika izvođenja radova investitora, Infrastrukture Železnice Srbije. Izdata je neophodna dokumentacija, izmeštaju se objekti distributivne mreže i rade se priključci kako bi se na vreme pripremila infrastruktura za novi deo brze pruge kojom će se vozovi kretati 200 kilometara na sat.

GN Poslednjih godina gradovi u Srbiji su mnogo bolje povezani, jer se grade najmoderniji autoputevi, koji moraju da zadovolje visoke standarde za bezbedno odvijanje saobraćaja, posebno u tunelima gde je električna energija neophodna za sisteme ventilacije, upravljanja, signalizacije. Koji projekti u saobraćajnoj infrastrukturi predstavljaju najveći izazov?

Imamo veoma dobru saradnju sa javnim preduzećima „Putevi Srbije“ i „Koridori Srbije“ na projektima izgradnje autoputeva i brzih saobraćajnica na teritoriji cele države. Na deonici autoputa „Miloš Veliki“ od Pakovraća do Požege u toku su intenzivni radovi na izgradnji neophodne infrastrukture. Za Elektrodistribuciju Srbije najvažnije su tri trafostanice 35/10 kV neophodne za stabilno napajanje tunela Munjino brdo i Laz, koji će biti najduži tuneli u Srbiji. U



Bojan Atlagić

VRŠILAC DUŽNOSTI DIREKTORA ELEKTRODISTRIBUCIJE SRBIJE



Foto: Aleksandar Vasilic, EDS

izgradnju te tri trafostanice Elektro distribucija Srbije uložice oko 800 miliona dinara.

Na Moravskom koridoru nedavno je predsednik Republike Srbije Aleksandar Vučić pustio u saobraćaj prvu deonicu novog autoputa u dužini od 16,8 kilometara od Pojata do Makrešana. Elektro distribucija Srbije je uradila svoj deo posla i nastavljamo da radimo u skladu na napretkom izgradnje.

Elektro distribucija Srbije je angažovana i na brzom saobraćajnici Požarevac-Golubac. Sva potrebna dokumentacija je spremna i realizacija prati izvođače radova. Tu je i Fruškogorski koridor koji se intenzivno radi. Na tom projektu, pored potrebne dokumentacije, izdata su i rešenja o priključenju pojedinih gradilišta. Uključeni smo i u projekte izgradnje deonice Iverak-Lajkovac, kao i autoputeva Sremska Rača-Kuzmin i Ruma-Šabac.

GN Kakvo su planovi za angažovanje Elektro distribucije Srbije na novim projektima u saobraćajnoj infrastrukturi?

Spremni smo za angažovanje gde god je potrebno. Od početnih faza izdavanja potrebne dokumentacije do puštanja u saobraćaj, a zatim i održavanja distributivne elektroenergetske mreže, posvećeni smo realizaciji značajnih projekata. Tako

je u pripremi brza saobraćajnica Loznica-Šabac, a priprema se i izgradnja autoputa Beograd-Zrenjanin-Novog Sada. U novu saobraćajnu vezu Beograda i Novog Sada, preko Zrenjanina uključeni su ogranci Elektro distribucije Srbije iz beogradskog naselja Krnjača, Pančeva, Zrenjanina i Novog Sada. Pored novog autoputa na severu zemlje, gradi se i na jugu Srbije gde je posebno značajna izgradnja autoputa Niš-Merdare. Krajem jula u saobraćaj je puštena prva deonica od 5,5 kilometara i nastavlja se dalja realizacija. Srbija će biti premrežena modernom saobraćajnom infrastrukturom, i Elektro distribucija Srbije sa ponosom pruža podršku da svaki od ovih projekata ima energetske uslove za izgradnju i bezbedno korišćenje.

GN Dobri putevi su važni i zbog privlačenja stranih investicija, izgradnje fabrika i otvaranja novih radnih mesta. Koji su najvažniji projekti u koje je uključena Elektro distribucija Srbije?

Izgradnjom novih kapaciteta i mreže neophodne za nove fabrike podržavamo sve projekte stranih direktnih investicija kojima je Vlada Srbije dodelila status od državnog značaja. Na primer, u Valjevu je u aprilu otvorena fabrika nemačke kompanije Bizerba, a u junu je počeo da radi novi pogon kompanije „Hangsrohe“. U planu je da u Valjevu izgradimo novu

Bojan Atlagić

ACTING DIRECTOR OF THE ELECTRICITY DISTRIBUTION COMPANY OF SERBIA



Energy Infrastructure for Strong Development

In an interview with GREEN NEWS, the head of the Electricity Distribution Company of Serbia spoke about the most important projects, the investments that the distribution system operator implements to ensure a stable power supply, and the steps that the national electricity distribution company took to speed up and facilitate the connection of consumers to the network



A reliable and high-quality supply of electricity is one of the prerequisites for the economic development of the country and better life for citizens, as it creates a stable basis for the initiation of new projects, modernization and construction of strategic infrastructure.

The Electricity Distribution Company of Serbia is actively involved in all major development projects of special importance for our country, because without access to the distribution network and safe supply of electricity, there is no successful realization. New highways, high-speed railway, new modern factories of foreign investors, data center, and stadiums are some of the strategic facilities for which the Electricity Distribution Company of Serbia provides the energy network and thus makes significant contribution to the economic development of Serbia. The company will invest more than five billion dinars of its own funds only in the construction of new and reconstruction of existing power facilities for the connection of new plants of foreign investors. We have also provided power to more than 20 new factories in the last five years and over 200 kilometers of highways - said Bojan Atlagić, acting director of the Electricity Distribution Company of Serbia.

In an interview with GREEN NEWS, the head of the Electricity Distribution Company of Serbia spoke about the most important projects, the investments that the distribution system operator realizes to ensure a stable power supply, and the steps that the national electricity distribution company took to speed up and facilitate the connection of consumers to the network.

GN The special task of the Electricity Distribution Company of Serbia is to provide access to the distribution system for all infrastructure facilities. What are the most important projects you are currently involved in?

The experts of the Electricity Distribution Company of Serbia are involved in every investment for which it is necessary to provide electricity supply

from the distribution network, namely all factories, roads, buildings, and railways. We provide technical conditions, build substations, connections, energy lines. Only for the first section of the Belgrade-Novog Sada-Subotica high-speed railway, we built the electric power infrastructure (substations, connection and distribution facilities, medium and low voltage lines), and connected railway stations and the Čortanovci tunnel at medium voltage, and a large number of facilities at low voltage. Now intensive work is being done on the section from Novi Sad to Subotica. Three branches of the Electricity Distribution Company of Serbia - Novi Sad, Sombor and Subotica - are included in that project. The dynamics of the works carried out by the investor, the Serbian Railway Infrastructure, are being monitored. The necessary documentation has been issued, the facilities of the distribution network are being relocated and connections are being made in order to prepare the infrastructure for the new part of the high-speed railway on which the trains will move at 200 kilometers per hour.

GN In recent years, cities in Serbia are much better connected, because the most modern highways are being built, which must meet high standards for safe traffic, especially in tunnels where electricity is necessary for ventilation, control, and signaling systems. Which projects in the transport infrastructure represent the biggest challenge?

We have very good cooperation with the public companies Roads of Serbia and Corridors of Serbia on projects for the construction of highways and expressways throughout the country. On the section of the „Miloš the Great“ highway from Pakovrača to Požega, intensive works are underway to build the necessary infrastructure. For the Electricity Distribution Company of Serbia, the three 35/10 kV substations necessary for stable power supply of Munjino hill and Laz, which will be the longest tunnels in Serbia, are the most important. The company will invest about 800 million dinars in the construction of those three substations.



Bojan Atlagić

VRŠILAC DUŽNOSTI DIREKTORA ELEKTRODISTRIBUCIJE SRBIJE

Spremni smo za angažovanje gde god je potrebno. Od početnih faza izdavanja potrebne dokumentacije do puštanja u saobraćaj, a zatim i održavanja distributivne elektroenergetske mreže

trafostanicu 35/10 kV „Valjevo 12“, kao i rekonstrukcija trafostanice 110/35 kV „Valjevo 1“, da bi se industrijska zona u Valjevu pripremila za nove investitore.

Obezbedili smo i priključene kineske fabrike Linglong u Zrenjaninu sa snagom od 15 MW, kao i fabrike Tojo Tajers u Indiji, i proizvodnog pogona velike svetske kompanije MTU u Staroj Pazovi. U Novom Sadu je otvorena i fabrika NIDEC, a u Kaću fabrika Kontinental. Za sve projekte će Elektro distribucija Srbije omogućiti kapacitete za stabilnu isporuku električne energije. Gradi se nova trafostanica 110/20 kV u Kaću, koja će služiti za krajnje napajanje od 16 MW za fabriku Kontinental. U Pančevu je u planu izgradnja nove trafostanice 110/20 kV „Pančevo 6“, koja će napajati industrijsku zonu u tom gradu. Tamo su već priključene fabrike velikih nemačkih kompanija Brose i ZF.

GN Da li pripremate projekte za još neke industrijske zone u kojima će biti prostor za nove investicije?

Oprema se poslovna zona u Adaševcima, gde dolaze dva nova investitora, a u Nišu se očekuje novi pogon austrijske kompanije „Palfinger“ i još nekoliko manjih investitora. Nove pogone imaju i kompanija „Motherson“ u Čupriji, kompanije „Nestle“, a proizvodne kapacitete imaju i kineski Zidina u Boru i kompanije „Minth“ u Šapcu. Na svakom projektu ugrađuje se najmodernija oprema.

GN Beograd će za četiri godine biti domaćin specijalizovane međunarodne izložbe EXPO 2027. Kakvi su zadaci Elektro distribucije u ovom projektu?

Elektro distribucija Srbije ubrzano priprema izgradnju trafostanica i distributivne mreže za napajanje električnom energijom budućeg kompleksa u Surčinu, u kojem će biti organizovana međunarodna izložba EXPO 2027.

- Pred Elektro distribucijom Srbije je veliki i odgovoran posao i siguran sam da ćemo ga uspešno realizovati jer imamo znanje, stručnjake i iskustvo. Za realizaciju projekta multimedijalne izložbe EXPO 2027 potrebna je izgradnja 11 trafostanica 10/0,4 kV, priključnih razvodnih postrojenja 10 kV sa uklapanjem u buduću mrežu 10 kV. Najveći objekat koji će se graditi je trafostanica 110/10 kV „Beograd 58 – Nacionalni stadion“. Ta trafostanica napajaće novi sajamski prostor u kojem će biti izložba EXPO 2027 i sve prateće objekte neophodne za funkcionisanje tog kompleksa. Pored toga, Elektro distribucija Srbije je od početka uključena i u projekat izgradnje nacionalnog stadiona u Surčinu, koji će biti uz sajamski kompleks.

To nije jedini sportski objekat u čiju izgradnju smo uključeni. Realizovan je i projekat novog fudbalskog stadiona u Leskovcu, radi se i napajanje za novi stadion u Zaječaru, a tu je i novi stadion u Loznici, po UEFA standardima, za koji su obezbeđeni svi uslovi za stabilno napajanje električnom energijom.

GN Energetska politika u Srbiji prati evropske i svetske trendove dekarbonizacije i energetske tranzicije i kreće se u pravcu uključivanja što većeg broja kompanija i građana u korišćenja obnovljivih izvora energije. Šta Elektro distribucija Srbije radi po ovom pitanju?

Sve veći broj građana i kompanija zainteresovan je da za sopstvene potrebe proizvodi električnu energiju iz obnovljivih izvora, tako da je i u Srbiji zakonima i propisima regulisana ta opcija. Pre oko godinu i po potpisan je prvi ugovor sa kupcem proizvođačem električne energije čime je i u praksi zaživeo ovaj koncept. Sada je na mreži više od 2.000 kupaca koji su stekli status kupca-proizvođača sa ukupno oko 26 megavata instalisane snage za proizvodnju električne energije iz obnovljivih izvora. Početne, „dečje bolesti“ su prevaziđene, interesovanje građana i privrede raste i uz edukaciju svih učesnika i fino podešavanje sistema, kupci-proizvođači mogu da daju doprinos energetskej tranziciji u Srbiji. Elektro distribucija Srbije kao odgovorna kompanija proverava sve tehničke uslove za priključenje na mrežu svakog proizvodnog objekta, izrađuje studije priključenja u kojima se proveravaju kriterijumi na osnovu pravila o radu, mrežnih pravila, vodi registar.

GN Prema vašim procenama, da li će i dalje rasti broj kupaca proizvođača?

Elektro distribucija Srbije je spremna za izazove kada je u pitanju priključenje novih kupaca-proizvođača na mrežu. Interesovanje je veliko i trenutno imamo više od 1.500 novih zahteva sa ukupno instalisanom snagom oko 340 megavata, a procedura za priključivanje je značajno ubrzana u odnosu na početak primene. Tako na primer, samo u aprilu ove godine 200 novih korisnika smo priključili na mrežu i uveli u Registar kupaca-proizvođača. Izmenama zakona limit instalisane snage elektrana postavljen je na nivou od 10,8 kW za domaćinstva. Trenutni prosek priključenih korisnika je osam kW, tako da je suštinski i povećan prag, kako bi bila veća isplativost za ugradnju solarnih panela, što pogoduje porastu broja kupaca proizvođača.

GN

Imamo veoma dobru saradnju sa javnim preduzećima „Putevi Srbije“ i „Koridori Srbije“ na projektima izgradnje autoputeva i brzih saobraćajnica na teritoriji cele države

GN

Bojan Atlagić

ACTING DIRECTOR OF THE ELECTRICITY DISTRIBUTION COMPANY OF SERBIA



Foto: EDS

Aleksandar Vučić, the President of the Republic of Serbia, has recently opened the first section of the new highway, 16.8 kilometers long, from Pojat to Makrešan, on the Morava Corridor. The Electricity Distribution Company of Serbia has done its part and we continue to work in accordance with the progress of the construction.

The company is also involved in the Požarevac-Golubac expressway. All the necessary documentation is ready and the implementation follows the contractors. There is also the Fruškogorski Corridor, which is being worked on intensively. In addition to the necessary documentation, decisions on the connection of individual construction sites were also issued within that project. We are also involved in the construction projects of the Iverak-Lajkovac section, as well as the Sremska Rača-Kuzmin and Ruma-Šabac highways.

GN What are the plans for the engagement of the Electricity Distribution Company of Serbia on new projects in the traffic infrastructure?

We are ready to engage wherever necessary. From the initial stages of issuing the necessary documentation to putting it into traffic, and maintaining the distribution power network, we are committed to the realization of significant projects. The Loznica-Šabac high-speed road is being prepared, and the construction of the Belgrade-Zrenjanin-Novu Sad highway is also being prepared. In the new traffic connection between Belgrade and Novi Sad, via

Zrenjanin, the branches of the Electricity Distribution Company of Serbia from Krnjača, Pančevo, Zrenjanin and Novi Sad are included. In addition to the new highway in the north of the country, it is also being built in the south of Serbia, where the construction of the Niš-Merdare highway is particularly important. At the end of July, the first section of 5.5 kilometers was put into traffic and further implementation continues. Serbia will be connected with modern traffic infrastructure, and the Electricity Distribution Company of Serbia is proud to support so that each of these projects has energy requirements for construction and safe use.

GN Good roads are also important for attracting foreign investments, building factories and creating new jobs. What are the most important projects in which the Electricity Distribution Company of Serbia is involved?

By building new capacities and networks necessary for new factories, we support all foreign direct investment projects to which the Government of Serbia has granted the status of national importance. For example, a factory of the German company Bizerba was opened in Valjevo in April, and a new plant of the Hangsrohe company started operating in June. It is planned to build a new 35/10 kV substation „Valjevo 12“, as well as the reconstruction of the 110/35 kV substation „Valjevo 1“, in order to prepare the industrial zone in Valjevo for new investors.

GN

Bojan Atlagić

VRŠILAC DUŽNOSTI DIREKTORA ELEKTRODISTRIBUCIJE SRBIJE



Foto: Aleksandar Vasilic, EDS

ЕЛЕКТРОДИСТРИБУЦИЈА
СРБИЈЕ



NAPAJANJE ZA SIGURNE PODATKE

Elektrodistribucija Srbije obezbedila je kvalitetno napajanje za državni DATA centar (centar za upravljanje i čuvanje podataka) u Kragujevcu, i to po najvišim svetskim standardima. To je stvorilo uslove da u taj centar dođe i globalna IT gigant kompanija „Oraclecloud“, koja je u Kragujevcu otvorila svoj regionalni centar, zaključio je Bojan Atlagić, v.d. direktora Elektrodistribucije Srbije.



POWER SUPPLY FOR SECURE DATA

The Electricity Distribution Company of Serbia has provided quality power supply for the state DATA center (the center for managing and storing data) in Kragujevac, according to the highest international standards. This created the conditions for the global IT giant company Oracle Cloud, which opened its regional center in Kragujevac, to come there, concluded Bojan Atlagić, acting director of the Electricity Distribution Company of Serbia.



Bojan Atlagić

ACTING DIRECTOR OF THE ELECTRICITY DISTRIBUTION COMPANY OF SERBIA



We are ready to engage wherever it is necessary - from the initial stages of issuing the necessary documentation, putting into traffic, and maintaining the distribution power network



We also secured the connection of the Chinese Linglong factory in Zrenjanin with power of 15 MW, as well as the Toyota Tires factory in Indija, and the production facility of the large world company MTU in Stara Pazova. The NIDEC factory was opened in Novi Sad, and the Kontinental factory in Kač. For all projects, the Electricity Distribution Company of Serbia will provide capacities for stable delivery of electricity. A new 110/20 kV substation is being built in Kač, which will serve as a final power supply of 16 MW for the Kontinental factory. In Pančevo, the plan is to build a new 110/20 kV substation „Pančevo 6“, which will supply the industrial zone in that city. Factories of large German companies Brose and ZF are already connected there.

GN *Are you preparing projects for some other industrial zones where there will be space for new investments?*

The business zone in Adasevci is being equipped, where two new investors are coming, and a new plant of the Austrian company Palfinger and several other smaller investors are expected in Niš. The company Motherson in Čuprija, the company Nestle and the Chinese company Zidina in Bor and the company Minth in Šabac have new facilities. The most modern equipment is installed in every project.

GN *In four years, Belgrade will host the specialized international exhibition EXPO 2027. What are the tasks of the Electricity Distribution Company of Serbia in this project?*

The Electricity Distribution Company of Serbia is rapidly preparing the construction of substations and a distribution network for supplying electricity to the future complex in Surčin, where the EXPO 2027 international exhibition will be organized.

The Electricity Distribution Company of Serbia has a big and responsible task, and I am sure that we will successfully realize it because we have the knowledge, experts and experience. The realization of the EXPO 2027 multimedia exhibition project requires the construction of 11 10/0.4 kV substations, 10 kV connection switchboards with integration into the future 10 kV network. The largest building to be built is the 110/10 kV transformer station „Belgrade 58 - National Stadium“. That substation will power the new fair space where the EXPO 2027 exhibition will be held and all the accompanying facilities necessary for the functioning of that complex. In addition, the Electricity Distribution Company of Serbia has been involved from the beginning in the construction project of the national stadium in Surčin, which will be next to the fair complex. It is not the only sports facility in the construction of which we are involved.

The project of a new football stadium in Leskovac has been implemented, the power supply for a new stadium in Zaječar is being worked on, and there is also a new stadium in Loznica, according to UEFA standards, for which all the conditions for a stable power supply are provided.

GN *The energy policy in Serbia follows the European and world trends of decarbonization and energy transition and moves in the direction of including as many companies and citizens as possible in the use of renewable energy sources. What is the Electricity Distribution Company of Serbia doing about this issue?*

An increasing number of citizens and companies are interested in producing electricity from renewable sources for their own needs, so that option is also regulated by laws and regulations in Serbia. About a year and a half ago, the first contract was signed with a customer, the electricity producer, which put this concept into practice. There are now more than 2,000 customers online who have acquired the status of customer-producer with total of about 26 megawatts of installed power for the production of electricity from renewable energy sources. The initial „children's diseases“ have been overcome, the interest of citizens and businesses is growing, and with the education of all participants and fine-tuning of the system, customers-producers can contribute to the energy transition in Serbia. The Electricity Distribution Company of Serbia, as a responsible company, checks all technical conditions for connection to the network of each production facility, prepares connection studies in which criteria are checked based on work rules, network rules, and maintains a register.

GN *According to your estimates, will the number of customers-producers continue to grow?*

The Electricity Distribution Company of Serbia is ready for challenges when it comes to connecting new customers-producers to the network. The interest is great and we currently have more than 1,500 new requests with total installed power of about 340 megawatts, and the connection procedure has been significantly accelerated compared to the beginning of the application. For example, in April of this year alone, we connected 200 new users to the network and entered them into the Register of Customers -Producers. By amending the law, the limit of the installed power of power plants was set at the level of 10.8 kW for households. The current average of connected users is eight kW, so it is essential to increase the threshold, in order to make it more profitable to install solar panels, which favors the increase in the number of customers – producers.

Vetroparkovi u Srbiji imaju ogroman potencijal

Wind Farms in Serbia Have Enormous Potential

Što se tiče inovativnih tehnologija, treba istaći da SAD tu prednjače bez premca, ali ih Evropa uspešno prati. Ipak, do Srbije trendovi stižu sa zakašnjenjem. Recimo, upotreba vetra za proizvodnju električne energije je u Americi krenula još osamdesetih godina prošlog veka, dok je kod nas tek u povoju. Međutim, dobra vest je procena stručnjaka i onih koji prate tržište, da će se ulaganja u zelenu energiju ubuduće značajno povećati, kao i da će cena struje iz vetroparkova biti sve niža.

Profesor Elektrotehničkog fakulteta u Beogradu, dr Nikola Rajaković, koji je ujedno i predsednik Saveza energetičara, za Euronews Srbija je rekao da je razlog relativnog zaostajanja Srbije u izgradnji vetroparkova to što vetroenergetika nije razvijena onoliko koliko je to poželjno i što se relativno kasno krenulo sa razvojem te oblasti.

GN

As far as innovative technologies are concerned, it should be noted that the USA is leading the way here, but Europe is successfully following them. However, trends arrive late in Serbia. For example, the use of wind for the production of electricity started in America in the eighties of the last century, while here it is still in its infancy. However, the good news is the assessment of experts and those who follow the market, that investments in green energy will increase significantly in the future, as well as that the price of electricity from wind farms will be lower.

Dr Nikola Rajaković, a professor at the Faculty of Electrical Engineering in Belgrade, who is also the president of the Association of Power Engineers, told Euronews Serbia that the reason for Serbia's relative lag in the construction of wind farms is that wind energy has not been developed as much as it is desirable and that the development started relatively late in that area.

GN



„Zakonodavstvo nije bilo uvedeno na vreme i podsticajne mere su bile uvedene tek 2009. i svakako smo u odnosu na neke zemlje regiona u ozbiljnom zaostatku. Mi imamo negde instaliranih oko 500 megavata u našim vetroelektranama. Trebalo bi daleko više, zato što je proizvodnja iz vetroelektrana jedan od stubova ukupne energetske tranzicije. Da bismo dekarbonizovali energetski sistem, odnosno da bismo se sklonili od uglja, nafte i gasa, moramo razvijati vetroenergetiku, solarnu, naravno hidroenergetiku i energiju baziranu na biomasi i geotermalnu“, smatra Rajaković i napominje da je trenutno energija iz vetra zastupljena sa samo jednim procentom u ukupnoj energetskoj proizvodnji u Srbiji.

„Međutim, mi zaista imamo očekivanja, vrlo realna očekivanja da će to početi ozbiljno da raste i da će do 2030. biti reda dvocifrenog procenta, da bude 10,15 odsto. Hidroenergija danas učestvuje u ukupnom energetskom miksu sa jednom trećinom, dve trećine je termoenergetika. Vrlo mali procenat je iz OIE modernog tipa, dakle vetroelektrana i solarnih elektrana. Dakle, trenutni rezultat nije odličan, ali je onaj u perspektivi sasvim dobar“, kaže Rajaković.

PODRUČJA POGODNA ZA VETROPARKOVE

Prolazeći kroz banatsku ravnicu poslednjih godina susrećemo sve više vetrenjača, a jedan od najvećih vetroparkova u Srbiji lociran je pokraj Kovačice.

„Objekat sačinjen od 38 vetrogeneratora ukupne instalirane snage 104,5 MW. Otprilike 68.000 domaćinstava može godišnje da se snabde iz vetroparka Kovačica. Ona ima ujedno i minimalan uticaj na životnu sredinu“, kaže Veljko Ožegović iz vetroparka Kovačica. U Srbiji je izgrađeno devet vetroparkova, a još je više onih čija je izgradnja tek u planu.

Ekspert za zaštitu prirode, Duška Dimović, kaže da su najveće prednosti vetroparkova to što je u pitanju obnovljivi izvor energije i što, zapravo, smanjuju emisiju gasova koji izazivaju efekat staklene bašte, odnosno uljen-dioksida i na taj način ublažavaju klimatske promene. Izgradnji vetroparka prethode studije procene uticaja na životnu sredinu. Kažu i da je Banat idealno područje za ovako nešto. Pre svega nije potrebno krčiti šume, takođe ono što je vrlo važno je da ptice ne migriraju ovim područjem, ali takođe i poljoprivrednici su dobili pristupne puteve svom zemljištu. Ipak, oni koji se bave zaštitom prirode napominju da je potrebno raditi kumulativne procene, umesto za svaki projekat ponaosob.

„Ono što možemo smatrati problemom je što oni mogu da predstavljaju opasnost za ptice, za slepe miševе i za različite vrste živog sveta“, kaže Dimović.

S obzirom da se projekat vetropark Kovačica ispostavio kao dobar, planirano je njegovo proširenje, čime bi se proizvodnja struje u ovoj elektrani udvostručila.



„Legislation was not introduced on time and incentive measures were only introduced in 2009, and we are certainly behind some countries in the region. We have approximately 500 megawatts installed in our wind farms. We need much more, because the production from the wind power plant is one of the pillars of the overall energy transition. In order to decarbonize the energy system, i.e. to move away from coal, oil and gas, we must develop wind power, solar power, hydropower, geothermal and energy based on biomass“, Rajaković believes, noting that currently wind energy represents only one percent of the total energy production in Serbia.

„However, we have very realistic expectations, that it will begin to grow seriously and that by 2030 it will be 10.15 percent. Today, hydropower represents one third in the total energy mix, and thermal energy two thirds. A very small percentage is from RES of the modern type, i.e. wind power plants and solar power plants. Therefore, the current result is not excellent, but the one in perspective is quite good“, says Rajaković.

SUITABLE AREAS FOR THE WIND FARMS

Passing through the Banat plain in recent years, we encounter more and more windmills, and one of the largest wind turbines in Serbia is located near Kovačica.

„The facility consists of 38 wind generators with total installed power of 104.5 MW. Approximately 68,000 households can be supplied annually from the Kovačica wind farm. It also has a minimal impact on the environment“, says Veljko Ožegović from the Kovačica wind farm. Nine wind farms have been built in Serbia, and there are even more whose construction is still planned.

Duška Dimović, a nature protection expert, says that the biggest advantages of wind farms are that they are a renewable source of energy and that, in fact, they reduce the emission of gases that cause the greenhouse effect, i.e. oil dioxide, and thus mitigate climate change.

The construction of the wind farm is preceded by environmental impact assessment studies. They also say that Banat is an ideal area for something like this. First of all, it is not necessary to clear the forests, also what is very important is that the birds do not migrate through this area. Farmers also got access roads to their land. However, those who deal with nature protection note that it is necessary to make cumulative assessments, instead of ones for each project individually.

„What we can consider a problem is that they can pose a danger to birds, bats and different species of the living world“, says Dimović.

Given that the Kovačica wind farm project turned out to be a good one, it is planned to be expanded, which would double the electricity production in this power plant.





PROIZVODNJA JEFTINIJA NEGO PRE DVE DECIENIJE

Na pitanje koliko je energija vetra ekonomski isplativa proizvođačima, Elektroprivredi Srbije i građanima, profesor Nikola Rajaković kaže da je priča vrlo složena i da bi zahtevala ozbiljnu elaboraciju, ali da je najkraće rečeno KW sat danas daleko jeftiniji nego KW sat iz tih istih vetroelektrana pre 20 godina.

„Znači cene proizvodnje iz vetroelektrana, tehnologije su pojeftinile, ekonomija obima je počela da deluje, gradi se puno elektrana po belom svetu. Dakle, sve je dovelo do toga da je taj KW sat danas neuporedivo jeftiniji nego u termoelektrani. Stigla je i pobedila konvencionalne izvore. Zato se svima isplati dugoročno gledano. Trenutno ne, ali dugoročno gledano mi potrošači imaćemo ozbiljne koristi od vetroenergije”, tvrdi Rajaković.

On ukazuje da je smisao povlašćenih proizvođača da se podstakne ta tehnologija, da krene razvoj te oblasti. Napominje da je to i urađeno u Srbiji počev od 2009. Međutim danas, kako su tehnologije u vetroelektranama i solarnim elektranama ozbiljno pojeftinile, taj smisao se gubi. Kaže da danas struka smatra da treba da težimo da svi budu ravnopravni, da proizvođači električne energije budu ravnopravni na tržištu.

Spominje se i da je potrebno izmeniti Zakon o obnovljivim izvorima energije i uskladiti ga sa evropskim, a profesor podseća da je zakonodavstvo bitno unapređeno prošle godine. Dodaje da je ostala sporna dilema ko je balansno odgovorna strana.

„Vetroelektrane, solarne, hidroelektrane, ne proizvode konstantno, a spor je u razmišljanju ko će preuzeti teret varijabilne proizvodnje. Snaga na izlazu iz tih elektrana nije konstantna. U zavisnosti od intenziteta vetra imate promenjivu snagu. Isto je kod sunca, noću nemate sunca. Po našem zakonu, odgovorna strana je EPS. Kako pokazuje iskustvo, evropsko, svetsko, ta balansna strana treba da bude sam proizvođač.



PRODUCTION NOW CHEAPER THAN TWO DECADES AGO

When asked how much wind energy is economically profitable for producers, the Electric Power Company of Serbia and citizens, Professor Nikola Rajaković says that the story is very complex and would require serious elaboration, but that in short, a kWh today is far cheaper than a kWh from those same wind farms 20 years ago.

„The prices of production from wind power plants, and technologies have become cheaper, the economy of scale has started to work, a lot of power plants are being built all over the world. Everything has led to the fact that today the kWh is incomparably cheaper than in a thermal power plant. It has caught up with and defeated conventional sources. That is why it pays off for everyone in the long run. Not at the moment, but in the long run, consumers will have serious benefits from wind energy,” claims Rajaković.

He indicates that the purpose of privileged producers is to encourage the technology, and start the development of that area. He notes that this has been done in Serbia since 2009. However, today, as technologies in wind power plants and solar power plants have become seriously cheaper, that sense is being lost. He says that today experts believe that we should strive for electricity producers to be equal in the market.

It is also necessary to amend the Law on Renewable Energy Sources and harmonize it with European ones, and the professor reminds that the legislation was significantly improved last year. He adds that there is still a questionable dilemma as to who is responsible party for the balance.

„Wind power plants, solar power plants, and hydro power plants do not produce constantly, and the dispute is who will take the burden of variable production. The power at the output of those power plants is not constant. Depending on the intensity of the wind, you have variable power. It is the same with the sun, at night you have no sun. According to our law, the responsible party is the EPS. As European and worldwide experiences show, that balancing party should be the producer itself.

Čista energija za zelenu budućnost

Kompanija GREEN ENERGY 360 posvećena je održivom razvoju, očuvanju prirodnih resursa i energetske transformaciji kroz primenu solarne energije.

Uz distribuciju vrhunske solarne tehnologije, nudimo vam i najsavremenija rešenja u projektovanju i montaži solarnih elektrana, kao i usluge planiranja, organizacije, izgradnje i održavanja.

greenenergy360.com



Mihailo Janković

GENERALNI DIREKTOR MK GROUP

MK Group ulaže 900 miliona evra u projekte zelene energije

Novi vetroparkovi, agrosolarni projekat, biogazna postrojenja, samo su neke od investicija koje će kompanija realizovati u naredne tri godine

Kompanija MK Group ove godine slavi četiri decenije uspešnog poslovanja. Tim povodom najavljen je novi investicioni ciklus od 1,6 milijardi evra. Najveći deo investicija, čak 900 miliona, namenjen je za projekte zelene energije.

Zahvaljujući ovim investicijama kompanija će do 2026. godine pokrenuti 1 GW zelene energije kroz nova ulaganja u obnovljive izvore – vetra, sunca i biomase. U agrar će uložiti 350 miliona, a u oblast turizma 380 miliona evra. O svim planovima i budućim investicijama u obnovljive izvore energije razgovarali smo sa Mihailom Jankovićem, generalnim direktorom MK Group.

GN Ove godine najavili ste brojne projekte i nove investicije, posebno u oblasti zelene energije. Zbog čega ste odlučili da baš u ovu oblast usmerite najveći deo svojih ulaganja?

U MK Group svesni smo značaja zelene agende, i upravo zbog toga smo više od polovine vrednosti našeg novog investicionog ciklusa usmerili upravo na obnovljive izvore energije. U ovoj oblasti smo pioniri u Srbiji sa do sada tri izgrađena vetroparka u Vojvodini, a planiramo intenzivan razvoj u predstojećem periodu, na šta i ukazuje vrednost ulaganja od preko 900 miliona evra. Projekti energije vetra, sunca i biomase, koje ćemo realizovati do 2026. godine, podrazumevaju ukupni kapacitet od čak 1GW zelene energije. Posvećenost zelenoj transformaciji ne pokazujemo samo investicijama u obnovljive izvore, već liderski nastupamo i kroz ambiciozne ciljeve koje ćemo postaviti ove godine u okviru ESG strategije za narednih pet godina, u skladu sa globalnim naporima po pitanju zaštite životne sredine, borbe sa klimatskim promenama i dostizanja karbon neutralnosti. Održivost je jedan od fundamentalnih principa MK Group, i mislim da dajemo dobar primer.

GN Pored toga što ste lideri, pioniri ste jer ste izgradili prve vetroparkove u našoj zemlji.

Moram da kažem da smo izuzetno ponosni što

smo otvorili prvi vetropark u Srbiji – Kula, a do sada smo ih izgradili tri u Vojvodini, zajedno sa kompanijom Fintel Energija. Kula, La Piccolina i Košava imaju ukupan kapacitet 86MW, a njihova godišnja proizvodnja iznosi 210GWh zelene energije, što je ekvivalent snabdevanju 50.000 domaćinstava.

GN Pored tri postojeća vetroparka koje ste pomenuli, trenutno gradite i jedan u istočnoj Srbiji. Recite nam nešto više o njemu.

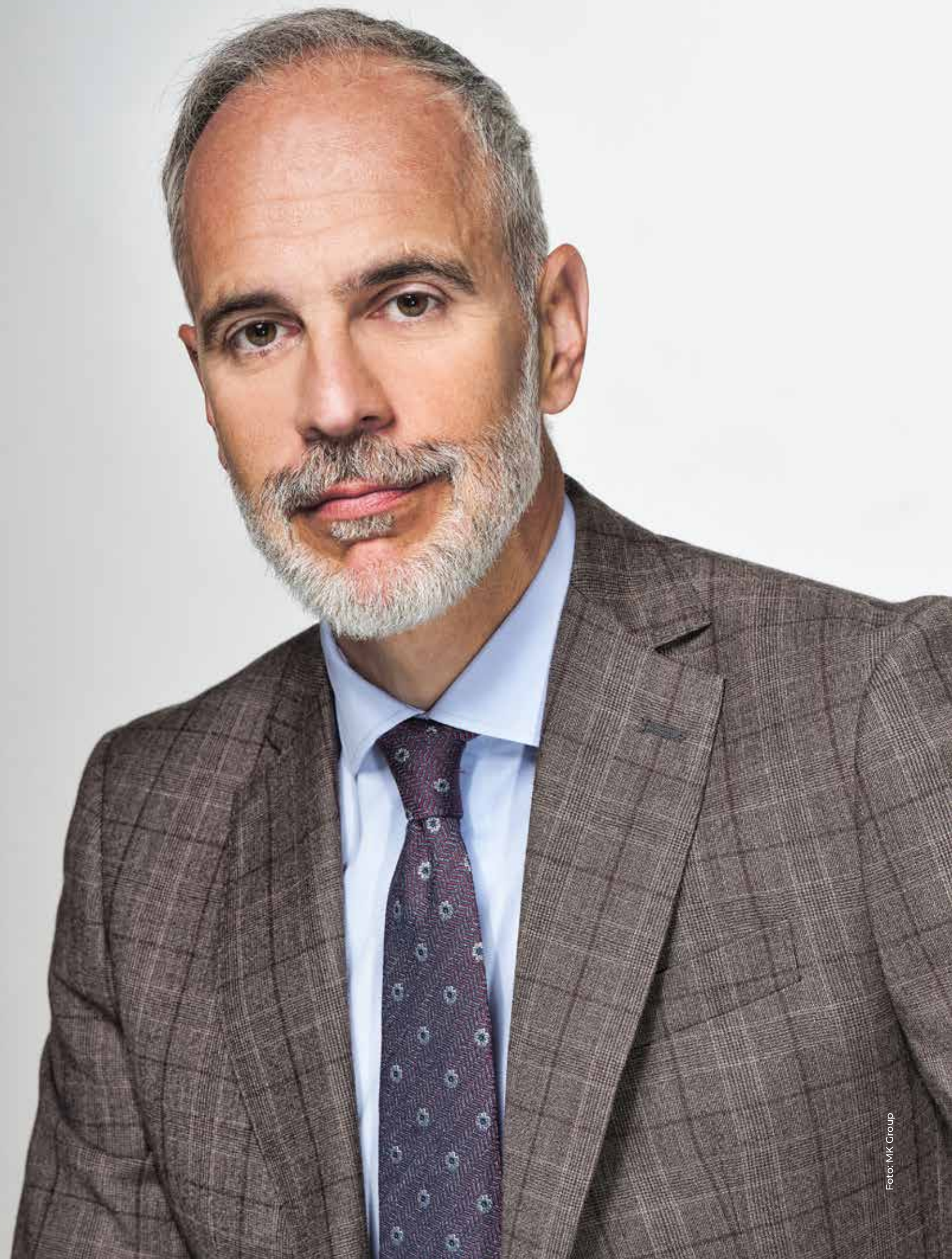
MK Group je poslednjih 10 godina vodeća kompanija u proizvodnji električne energije iz vetra na Balkanu i jedan je od najznačajnijih proizvođača električne energije na energetskom tržištu Srbije. Ne krijemo da imamo velike planove, a među njima je i otvaranje Krivače. To je prvi vetropark izgrađen u istočnoj Srbiji koji ćemo otvoriti. Ova investicija vredna je 165 miliona evra, a uskoro se očekuje završetak radova. Vetropark Krivača prostiraće se na 56 km² u opštinama Golubac, Kučevo i Veliko Gradište. Sa kapacitetom od 105 MW i 22 vetroturbine, godišnje će proizvoditi 310 GWh zelene energije, a ovaj projekat realizujemo zajedno sa slovenačkim investicionim fondom Alfi.

GN Uz Krivaču, najavili ste i dva nova vetroparka u Vojvodini?

Da, vetropark Kula 2 čije se otvaranje planira za 2024. godinu, investicija je vredna 12 miliona evra, sa kapacitetom 10 MW i godišnjom proizvodnjom struje 30 GWh. Pored njega, u izgradnju vetroparka Košava Faza 2, kapaciteta 68 MW, ulažemo 80 miliona evra, a godišnja proizvodnja električne energije 165 GWh biće započeta krajem 2024. godine.

GN Javnost je imala priliku da vidi agrosolarni projekat koji ste takođe najavili u godini jubileja. Šta nam možete otkriti o njemu?

Agrosolar Kula je prvi agrosolarni projekat na Balkanu i trenutno jedan od najvećih u Evropi. Predstavlja idealan spoj zelene energije i održive poljoprivrede, prostiraće se na 770 hektara u opštini



VETROPARK

Krivača

GODIŠNJA PROIZVODNJA
ANNUAL PRODUCTION

310 GWh

LOKACIJA
LOCATION

**Golubac, Kučevo,
Veliko Gradište**

POVRŠINA
COVER AREA

56 km²

VETROTURBINE
WIND TURBINES

22

KAPACITET
CAPACITY

105 MW



Foto: MK Group

Mihailo Janković

THE GENERAL MANAGER OF MK GROUP

MK Group Invests 900 Million Euros in Green Energy Projects

New wind farms, an agrosolar project, and biogas plants are just some of the investments that the company will realize in the next three years



The company MK Group is celebrating four decades of successful business operations this year. On this occasion, a new investment cycle of 1.6 billion euros has been announced. The largest part of investments, as much as 900 million, is intended for green energy projects.

Thanks to these investments, the company will launch 1 GW of green energy by 2026 through new investments in renewable sources - wind, solar and biomass. It will invest 350 million euros in agriculture, and 380 million euros in tourism. We discussed all plans and future investments in renewable energy sources with Mihailo Janković, the General Manager of MK Group.

GN This year, you have announced numerous projects and new investments, especially in the field of green energy. Why did you decide to direct most of your investments in this area?

At MK Group, we are aware of the importance of the green agenda, and that is why we have focused more than half of the value of our new investment cycle on renewable energy sources. We are pioneers in this area in Serbia, with three wind farms built so far in Vojvodina, and we are planning intensive development in the coming period, which is indicated by the value of investment of over 900 million euros. The wind, solar and biomass energy projects, that we will realize by 2026, imply a total capacity of 1 GW of green energy. We show our commitment to the green transformation not only by investing in renewable sources, but also by taking a leadership role through ambitious goals that we are going to set this year as part of the ESG strategy for the next five years, in accordance with global efforts in terms of environmental protection, the fight against climate change, and the achievement of carbon neutrality. Sustainability is one of MK Group's fundamental principles, and I think we set a good example.

GN Besides being leaders, you are also pioneers because you have built the first wind farms in our country.

I must say that we are very proud to have opened the first wind farm in Serbia - Kula, and so far we have built the three of them in Vojvodina, together with the company Fintel Energija. Kula, La Piccolina and Košava have total capacity of 86 MW, and their annual production is 210 GWh of green energy, which is equivalent to supplying 50,000 households.

GN In addition to the three existing wind farms you have mentioned, you are currently building one in eastern Serbia. Tell us more about it.

For the past 10 years, MK Group has been the leading company in the production of electricity from wind in the Balkans and is one of the most important producers of electricity on the Serbian energy market. We do not hide that we have big plans, and among them is the opening of Krivača. It is the first wind farm built in eastern Serbia that we are going to open. This investment is worth 165 million euros, and the works are expected to be completed soon. The Krivača wind farm will cover 56 km² in the municipalities of Golubac, Kučevo and Veliko Gradište. With a capacity of 105 MW and 22 wind turbines, it will produce 310 GWh of green energy annually, and we are realizing this project together with the Slovenian investment fund Alfi.

GN You have also announced two new wind farms in Vojvodina besides Krivača.

Yes, the Kula 2 wind farm, whose opening is planned in 2024, is an investment worth 12 million euros, with a capacity of 10 MW and annual electricity production of 30 GWh. In addition, we are investing 80 million euros in the construction of the Košava Phase 2 wind farm, with a capacity of 68 MW, and the annual production of 165 GWh of electricity will begin at the end of 2024.

GN The public has had the opportunity to see the agrosolar project that you have also announced in the jubilee year. What can you reveal to us about it?

The Agrosolar Kula is the first agrosolar project in the Balkans, and currently one of the largest in

Mihailo Janković

GENERALNI DIREKTOR MK GROUP



Kula, a razvijamo ga sa kompanijom Fintel Energija koju sam malopre pomenuo. Vrednost ove investicije iznosi više od 340 miliona evra. Solarna elektrana biće kapaciteta 660 megavata, a planirana godišnja proizvodnja zelene energije oko 832 GWh, što zadovoljava potrebe blizu 200.000 domaćinstava.

GN *Pored vetroparkova i agrosolarnih projekata, veoma ste aktivni i kada je reč o biogasnim postrojenjima.*

Biogasno postrojenje za proizvodnju električne energije imamo u okviru naše fabrike šećera – Sunoko. Investicijom od preko 9 miliona evra dali smo snažan doprinos očuvanju životne sredine i proizvodnji zelene energije. Postrojenje ima kapacitet proizvodnje električne energije od 2.4 MW/sat, čime obezbeđuje godišnje potrebe za strujom oko 5.000 domaćinstava. Novo biogasno postrojenje planiramo u Bečeju, a u perspektivi razmatramo i druga.

GN *Vodite računa o održivosti i kada je reč o vašem poslovanju u oblasti turizma i real estate projekata?*

Tako je, ove godine otvorili smo Petram Resort u Savudriji, u hrvatskom delu Istre, koji nudi potpuno novi koncept vrhunске usluge i sadržaja. Ovaj

turistički kompleks kreiran je na principima zelene gradnje i održivosti, uz korišćenje obnovljivih izvora energije. Takođe, naš Kempinski Adriatic na istoj lokaciji jedan je od prvih hotela na jadranskoj obali koji za proizvodnju električne energije koristi solarne panele.

GN *Ako uzmemo u obzir sve što ste nam rekli, slobodno možemo reći da će vaša posvećenost projektima zelene energije imati doprinos i za nove generacije?*

Investiranjem u projekte iz oblasti obnovljive energije, težimo povećanju proizvodnje električne energije iz čistih izvora što je alternativa fosilnim gorivima. Na taj način doprinosimo globalnim naporima u borbi protiv klimatskih promena i usmereni smo na postizanje karbon neutralnosti i smanjenu emisiju CO2. Kroz sva ova samostalna i partnerska ulaganja doprinosimo ostvarenju cilja Republike Srbije, da se učešće energije iz obnovljivih izvora poveća na blizu 50 odsto do 2040. godine. U godini jubileja, koji obeležavamo pod sloganom „Slavimo budućnost“, investiramo u projekte budućnosti za generacije budućnosti, jer verujemo da najbolje tek dolazi. **GN**

Mihailo Janković

THE GENERAL MANAGER OF MK GROUP



Europe. It represents an ideal combination of green energy and sustainable agriculture. It will cover 770 hectares in the municipality of Kula, and we are developing it with the company Fintel Energy that I have already mentioned. The value of this investment is more than 340 million euros. The solar power plant will have a capacity of 660 megawatts, and the planned annual production of green energy is around 832 GWh, which meets the needs of nearly 200,000 households.

GN *In addition to wind farms and agrosolar projects, you are also very active when it comes to biogas plants.*

We have a biogas plant for the production of electricity within our sugar factory- Sunoko. With an investment of over 9 million euros, we have made strong contribution to the preservation of the environment and the production of green energy. The facility has an electricity production capacity of 2.4 MW/hour, which provides the annual electricity needs of around 5,000 households. We are planning a new biogas plant in Bečej, and in the future we are considering another one.

GN *You take care of sustainability when it comes to your business operations in tourism and real estate projects.*

That's right, this year we have opened Petram Resort in Savudrija, in the Croatian part of Istria, which offers a completely new concept of superior service and facilities. This tourist complex has been created on the principles of green construction and sustainability, with the use of renewable energy sources. Also, our Kempinski Adriatic hotel at the same location is one of the first hotels on the Adriatic coast to use solar panels for electricity production.

GN *If we take into account everything you have told us, we can freely say that your commitment to green energy projects will also have contribution for new generations.*

By investing in projects in the field of renewable energy, we strive to increase the production of electricity from clean sources, which is an alternative to fossil fuels. In this way, we contribute to global efforts in the fight against climate change and are focused on achieving carbon neutrality and reduced CO2 emissions. Through all these independent and partner investments, we contribute to the achievement of the goal of the Republic of Serbia to increase the share of energy from renewable sources to 50 percent by 2040. In the year of jubilee, which we celebrate under the slogan „Celebrating the future“, we invest in future projects for future generations, because we believe that the best is yet to come. **GN**





Početak nove energetske ere

Vetropark se sastoji od 11 vetroturbinata postavljenih na plutajućim betonskim konstrukcijama sa zajedničkim sistemom sidrenja



The Beginning of a New Energy Era

The wind farm consists of 11 wind turbines placed on floating concrete structures with a common anchoring system



Norveška kompanija Equinor je ozvaničila početak rada najveće plutajuće vetroelektrane na svetu, nazvane Hywind Tampen. Ovaj projekat, vredan oko 638 miliona evra, predstavlja značajan korak u oblasti obnovljivih izvora energije i smanjenju emisija CO₂.

Hywind Tampen se nalazi oko 140 kilometara od obale Norveške u Severnom moru, gde dubine vode variraju između 260 i 300 metara. Vetropark se sastoji od 11 vetroturbina postavljenih na plutajućim betonskim konstrukcijama sa zajedničkim sistemom sidrenja. Ova inovativna tehnologija omogućava instalaciju turbina u dubljim vodama nego što je to moguće sa fiksnim dnom.

200 MILIONA EVRA OD DRŽAVE

Projekat Hywind Tampen je započeo proizvodnju električne energije u trećem kvartalu 2022. godine i sada je u potpunosti operativan. Sa kapacitetom od 88 MW, očekuje se da će ova plutajuća vetroelektrana pokrivati oko 35 odsto godišnjih potreba za električnom energijom na naftnim i gasnim platformama Snorre A i B, kao i Gullfaks A, B i C.

Equinor ističe da će Hywind Tampen značajno doprineti smanjenju emisija CO₂ u Severnom moru, sa procenom od oko 200.000 tona godišnje. Osim toga, ovaj projekat podržavaju državni fond Enova sa 200 miliona evra i privatni fond NOx sa 48,9 miliona evra, što dodatno ističe važnost tranzicije ka čistim izvorima energije.

UNAPREĐENJE TEHNIKE I SMANJENJE TROŠKOVA

Ovaj projekat ima šire implikacije za razvoj obnovljivih izvora energije. Norveška vlada je postavila ambiciozan cilj da do 2040. godine dodeli lokacije za izgradnju vetroparkova na moru snage 30 GW. Equinor planira da koristi stečeno iskustvo iz projekta Hywind Tampen kako bi unapredili tehnologiju i smanjili troškove, otvarajući put ka još većim plutajućim vetroelektranama.

Ova inicijativa takođe prati globalni trend u razvoju plutajućih vetroelektrana.

Kompanije širom sveta, uključujući i Sjedinjene Države, planiraju investicije u ovu tehnologiju kako bi iskoristile energiju vetra na obalama i smanjile emisije gasova sa efektom staklene bašte.

S obzirom na sve ove faktore, Hywind Tampen predstavlja značajan korak ka održivijoj budućnosti energetskog sektora, dok istovremeno postavlja izazove i dileme u vezi sa korišćenjem obnovljive energije za proizvodnju fosilnih goriva.



Čudesni norveški vetropark



The Norwegian company Equinor has officially started the operation of the largest floating wind farm in the world, called Hywind Tampen. This project, worth around 638 million euros, represents a significant step in the field of renewable energy sources and reduction of CO₂ emissions.

Hywind Tampen is located about 140 kilometers off the coast of Norway in the North Sea, where water depths vary between 260 and 300 meters. The wind farm consists of 11 wind turbines placed on floating concrete structures with a common anchoring system. This innovative technology enables the installation of turbines in deeper waters than it is possible with a fixed bottom.

200 MILLION EUROS FROM THE STATE

The Hywind Tampen project started generating electricity in the third quarter of 2022 and is now fully operational. With the capacity of 88 MW, this floating wind farm is expected to cover around 35 percent of the annual electricity needs of the oil and gas platforms Snorre A and B, as well as Gullfaks A, B and C.

Equinor points out that Hywind Tampen will contribute significantly to the reduction of CO₂ emissions in the North Sea, estimated at around 200,000 tonnes per year. In addition, this project is supported by the state fund Enova with 200 million euros and the private fund NOx with 48.9 million euros, which further emphasizes the importance of the transition to clean energy sources.

TECHNIQUE IMPROVEMENT AND COST REDUCTION

This project has wider implications for the development of renewable energy sources. The Norwegian government has set an ambitious goal to allocate 30 GW of offshore wind farm sites by 2040. Equinor plans to use the experience gained from the Hywind Tampen project to improve technology and reduce costs, paving the way for even larger floating wind farms.

This initiative also follows the global trend in the development of floating wind farms. Companies around the world, including the United States, are planning investments in this technology to harness offshore wind energy and reduce greenhouse gas emissions.

Considering all these factors, Hywind Tampen represents a significant step towards a more sustainable future of the energy sector, while simultaneously raising challenges and dilemmas related to the use of renewable energy for the production of fossil fuels.



Wonderful Norwegian Wind Park



Ponos i dika Starog kontinenta

Cene instalacije priobalnih vetroelektrana značajno su pale, postajući konkurentne sa tradicionalnom proizvodnjom električne energije

EVROPA 2020.

25GW

V. BRITANIJA

1,7GW

NEMAČKA

1,3GW

CILJ DO 2030.

35%

UKUPNE ENERGETSKE
POTROŠNJE IZ
OBNOVLJIVIH IZVORA



The Pride and Joy of the Old Continent

Installation prices of offshore wind farms have fallen significantly, becoming competitive with traditional electricity production

EUROPE 2020

25GW

GREAT BRITAIN

1,7GW

GERMANY

1,3GW

2030 GOAL

35%

TOTAL ENERGY
CONSUMPTION FROM
RENEWABLE ENERGY



Evropa je postala lider u razvoju vetroparkova na moru, sa znatnim napretkom u poslednjih nekoliko godina. Prema podacima iz 2017. godine, instalirani kapacitet vetroelektrana na morima povećao se za spektakularnih 25 odsto, dostigavši 3,1 gigavata, što zajedno sa priobalnim vetroelektranama čini fenomenalnih 15,8 gigavata.

Ova brza ekspanzija obnovljive energije rezultirala je izgradnjom 13 novih vetroparkova na moru, uključujući revolucionarnu plutajuću farmu vetrenjača kod severoistočne obale Škotske.

Velika Britanija i Nemačka su predvodnice u ovom sektoru, sa kapacitetima od 1,7 i 1,3 gigavata.

DOMINACIJA EVROPSKIH VETROTURBINA

Ukupno, Evropa trenutno ima više od 4.000 priobalnih vetroturbina u 11 zemalja, sa još 11 farmi „vetrenjača“ u izgradnji dodate dodatnih 2,9 gigavata energije. Do 2020. godine, ukupan kapacitet već je dosegao 25 gigavata. A širenje je i dalje u toku! Čak 98 odsto kapaciteta smešteno je u Velikoj Britaniji,



Europe has become a leader in the development of offshore wind farms, with significant progress in recent years. According to data from 2017, the installed capacity of offshore wind farms increased by spectacular 25 percent, reaching 3.1 gigawatts, which together with offshore wind farms makes phenomenal 15.8 gigawatts.

This rapid expansion of renewable energy has resulted in the construction of 13 new offshore wind farms, including a revolutionary floating wind farm off the north-east coast of Scotland. Great Britain and

Germany are leaders in this sector, with capacities of 1.7 and 1.3 gigawatts.

DOMINATION OF EUROPEAN WIND TURBINES

In total, Europe currently has more than 4,000 offshore wind turbines in 11 countries, with 11 more „wind farms“ under construction to add additional 2.9 gigawatts of energy. By 2020, the total capacity already reached 25 gigawatts. And the expansion is still ongoing! As much as 98 percent of the capacity



Nemačkoj, Danskoj, Holandiji i Belgiji. Cene instalacije priobalnih vetroelektrana značajno su pale, postajući konkurentne sa tradicionalnom proizvodnjom električne energije.

Ovo povećanje kapaciteta i smanjenje troškova nagoveštava potencijalni uspeh obnovljivih izvora energije do 2030. godine, sa ciljem da obnovljivi izvori čine 35% ukupne energetske potrošnje. Prema analizi Sandbeg i Agora energetskog preokreta, obnovljivi izvori energije premašili su ugaj u proizvodnji struje.

NAJVEĆI SKANDINAVSKI VETROPARK NA MORU

Energija iz obnovljivih izvora sada čini značajnu komponentu evropske energetske mreže, sa potencijalom da do 2030. pokrije čak 50% potreba za električnom energijom u Evropi. Otvaranje najvećeg skandinavskog vetroparka na moru, Kriegers Flak, sa 72 vetrogeneratora i kapacitetom za snabdevanje 600.000 danskih domaćinstava, dodatno ističe značaj obnovljivih izvora energije. Vattenfall, kompanija koja

upravlja ovim vetroparkom, takođe planira izgradnju najvećeg svetskog vetroparka na vodi, Hollandse Kust Zuid, kapaciteta 1,5 GW, sa planiranim otvaranjem do 2023. godine.

Sektor energije vetra ističe doprinos obnovljive energije smanjenju emisija CO₂, stvaranju radnih mesta i postizanju klimatskih ciljeva. Izumitelj vetro turbine, Henrik Stiesdal, radi na razvoju plutajućih vetro turbina koje bi mogle dramatično povećati proizvodnju električne energije iz vetra u budućnosti.

PLUTAJUĆE TURBINE ZA MIRNU BUDUĆNOST

Prema procenama, ove plutajuće turbine mogu proizvesti čak 11 puta više električne energije od trenutnih svetskih potreba do 2040. godine.

Evropa je na putu da postane lider u oblasti obnovljive energije, sa vetroparkovima na moru kao ključnom komponentom ovog energetskog preobražaja.



is located in Great Britain, Germany, Denmark, the Netherlands and Belgium. Installation prices of offshore wind farms have fallen significantly, becoming competitive with traditional electricity production.

This increase in capacity and reduction in costs foreshadows the potential success of renewable energy sources by 2030, with the goal of renewable sources accounting for 35% of total energy consumption. According to Sandbag and Agora's analysis of the energy revolution, renewable sources of energy have surpassed coal in electricity production.

THE BIGGEST SCANDINAVIAN WIND PARK AT SEA

Energy from renewable sources now forms a significant component of the European energy grid, with the potential to cover as much as 50% of Europe's electricity needs by 2030. The opening of the largest Scandinavian offshore wind farm, Kriegers Flak, with

72 wind generators and the capacity to supply 600,000 Danish households, further highlights the importance of renewable energy sources. Vattenfall, the company that manages this wind farm, also plans to build the world's largest offshore wind farm, Hollandse Kust Zuid, with a capacity of 1.5 GW, with a planned opening by 2023.

The wind energy sector highlights the contribution of renewable energy to reducing CO₂ emissions, creating jobs and achieving climate goals. The inventor of the wind turbine, Henrik Stiesdal, is working to develop floating wind turbines that could dramatically increase wind power generation in the future.

FLOATING TURBINES FOR PEACEFUL FUTURE

According to estimates, these floating turbines can produce as much as 11 times more electricity than current world needs by 2040.

Europe is on path to become a leader in renewable energy, with offshore wind farms as a key component of this energy transformation.



CILJ DO 2030.

Povećanje kapaciteta i smanjenje troškova nagoveštava potencijalni uspeh obnovljivih izvora energije

2030 GOAL

Increase in capacity and decrease in costs indicate the potential success of renewable energy sources

OBNOVLJIVA ENERGIJA

SVE ŠTO TREBA DA ZNATE

Neki ljudi znaju dosta o obnovljivoj energiji, a neki tek površno, te ovim tekstom želimo dodatno da vas edukujemo i predočimo vam šta sve podrazumeva ova vrsta energije

RENEWABLE ENERGY

EVERYTHING YOU NEED TO KNOW

Some people know a lot about renewable energy, and some only superficially, and with this text we want to educate you further and show you what this type of energy entails



OBNOVLJIVA ENERGIJA

SVE ŠTO TREBA DA ZNATE

Obnovljiva energija, koja se takođe naziva alternativna energija, odnosi se na snagu koja se koristi iz prirodnih resursa ili procesa koji se prirodno obnavljaju. Drugim rečima, to su resursi koji se prirodno javljaju sa primerima kao što su sunčeva svetlost, vetar, plima, talasi i geotermalna toplota.

Osim toga, obnovljiva energija se može klasifikovati kao solarna energija, energija vetra, hidroelektrična energija i biomasa (biogorivo). To su opcije koje su sada sve više u fokusu zbog svojih velikih prednosti, uključujući nisko zagađenje životne

sredine, stvaranje mogućnosti za zapošljavanje, pristupačnost, obnovljivost i efikasnost.

Upotreba obnovljive energije je, posebno, uzela maha zbog potrebe da se smanji zavisnost od fosilnih goriva, koja su se dugo (od početka 21. veka) koristila za napajanje industrije i za kućnu upotrebu, ali sa značajnim uticajima na životnu sredinu, zagađenje i globalno zagrevanje.

Neki ljudi znaju dosta o obnovljivoj energiji, a neki tek površno, te ovim tekstom želimo dodatno da vas edukujemo i predočimo vam šta sve podrazumeva ova vrsta energije.

RENEWABLE ENERGY

EVERYTHING YOU NEED TO KNOW

Renewable energy, also called alternative energy, refers to power that is used from natural resources or processes that are naturally renewable. In other words, they are naturally occurring resources, such as sunlight, wind, tides, waves and geothermal heat.

In addition, renewable energy can be classified as solar energy, wind energy, hydroelectric energy and biomass (biofuel). These are options that are now increasingly in focus due to their major advantages, including low environmental pollution, job creation,

affordability, renewability and efficiency.

The use of renewable energy, in particular, has gained momentum due to the need to reduce dependence on fossil fuels, which have been used for a long time (since the beginning of the 21st century) to power industry and for domestic use, but with significant impacts on the environment, pollution and global warming.

Some people know a lot about renewable energy, and some only superficially, so with this text we want to educate you further and show you what this type of energy entails.



MOĆ SOLARNE ENERGIJE

Solarna energija, kada se pravilno iskoristi, mogla bi zadovoljiti potrebe Zemlje za energijom tokom cele godine. Postoje različiti načini da se iskoristi sunčeva energija, a među njima je korišćenje panela na solarni pogon. Kada sunčevi zraci udare u ove panele, putem foto-zračenja, elektroni u silicijumskim ćelijama pretvaraju zrake u električnu energiju, napajajući tako naše domove,

kao i preduzeća. Čak 50% energije koja se koristi u Sjedinjenim Američkim Državama dobija se iz biomase. U Južnoj Ajovi, recimo, biljka poznata kao svičgrass (eng. switchgrass) obezbeđuje energiju za proizvodnju električne energije. Takođe, deponije i farme mleka su izvori biomase koja se koristi za proizvodnju električne energije u drugim delovima SAD.

THE POWER OF SOLAR ENERGY

Solar energy, when used properly, could meet the Earth's energy needs throughout the year. There are various ways to use the sun's energy, and among them is the use of solar-powered panels. When the sun's rays hit these panels, via photo-radiation, the electrons in the silicon cells convert the rays into electricity, thus powering our homes

as well as businesses. As much as 50% of the energy used in the United States comes from biomass. In Southern Iowa, for example, a plant known as switchgrass provides energy for the production of electricity. Also, landfills and dairy farms are sources of biomass used to generate electricity in other parts of the US.

OBNOVLJIVA ENERGIJA

SVE ŠTO TREBA DA ZNATE

CO2 NEUTRALNOST EVROPE

Evropa se, istovremeno, obavezala da do 2050. bude CO2 neutralna, kao i da što više koristi potencijale obnovljivih izvora energije, mada se čini da na tom putu kaska za Amerikom i Kinom. Sve u svemu, stručnjaci kažu da bi cela planeta mogla da dobije svu potrebnu energiju iz obnovljivih izvora do 2050, čime bi se okončalo oslanjanje čovečanstva na fosilna goriva i druge resurse koji "iscrpljuju".

Evropska unija (EU), koja je 2005. godine proizvela 6,38 procenata svoje energije iz obnovljivih izvora, usvojila je cilj 2007. da poveća taj broj na 20 procenata do 2020. Do 2016. oko 17 procenata energije EU dolazilo je iz obnovljivih izvora, a cilj je uključivao i planove da se emisije ugljen-dioksida smanje za 20 odsto i da se obezbedi da 10 odsto ukupne potrošnje goriva dolazi iz biogoriva. U ovaj proces nisu, pritom, uključene samo svetske vlade i njihove organizacije, već i kompanije poput tehnoloških divova.



POZNATI POMAŽU U EDUKACIJI

Takođe, razne poznate ličnosti se zalažu za očuvanje planete. Recimo, slavni glumac Met Dejmon je 2021. pozvao ulagače da investiraju u vodu, kao naš ključni resurs. On je 2009. bio i suosnivač neprofitne organizacije "Water.org", koja je isplatila 7,2 miliona kredita. Do danas, voda je najčešće korišćeni obnovljivi izvor energije. Procenjuje se da ima sposobnost da proizvede dovoljno energije da zadovolji potrebe 28,3 miliona ljudi.

GEOTERMALNA ENERGIJA - OD NOVINE DO TREND

Geotermalna energija je korišćena još sredinom 1860. godine. Hoteli u državi Oregon koristili su geotermalnu energiju iz podzemnih toplih izvora za zagrevanje vode u sobama i ostatku hotelskih objekata, a prvo geotermalno postrojenje otvoreno je u Kaliforniji 1921. godine, što je dovelo do brojnih istraživanja i razvojnih studija na univerzitetima, te utrolo put prvoj opremi za geotermalno grejanje koja je napravljena 1948. godine.

Dakle, kao što možemo da vidimo, priča o obnovljivim izvorima energije nije "novina", niti je stvar "trends", već je oduvek postojala potreba da se iskoriste prirodni kapaciteti.

Kada je, konkretno reč o energiji vetra, koja se koristi i u Srbiji, mada je tek u povelju, valja istaći kako je Kina svetski lider u proizvodnji energije vetra. Statistika pokazuje da

se na svaki sat izgrade dve vetro turbine; i tako je od 2017. godine. U toj državi je do sada izgrađeno više od 92.000 turbina, koje mogu da proizvedu 145 gigavata električne energije. Kina je, trenutno na putu da pokrene primarni projekat za izgradnju najveće svetske elektrane na vetar na moru.

Nasuprot tome, vetroelektrane u Sjedinjenim Državama generišu samo polovinu ovog kapaciteta. Ali, treba istaći i da se, najveća vetro turbina na svetu nalazi na Havajima: ima 20 spratova i lopatice dužine fudbalskog terena. Energija vetra na Havajima ima potencijal da obezbedi svu proizvodnju električne energije u sektoru. Do 2045. godine, ova savezna država SAD planira da bude 100% zavisna od obnovljive energije za svu potrošnju električne energije.

GN

RENEWABLE ENERGY

EVERYTHING YOU NEED TO KNOW

CO2 NEUTRALITY OF EUROPE

At the same time, Europe has committed itself to be CO2 neutral by 2050, as well as to use the potential of renewable energy sources as much as possible, although it seems that it is lagging behind America and China on that path. Overall, experts say the entire planet could get all the energy it needs from renewable sources by 2050, ending humanity's reliance on fossil fuels and other "depleting" resources.

The European Union (EU), which produced 6.38 percent of its energy from renewable sources in 2005, adopted a goal in 2007 to increase that number to 20 percent by 2020. By 2016, about 17 percent of the EU's energy came from renewable sources, and the target included plans to reduce carbon dioxide emissions by 20 percent and ensure that 10 percent of total fuel consumption comes from biofuels. In this process, not only world governments and their organizations are involved, but also companies such as technological giants.



CELEBRITIES HELP IN EDUCATION

Various celebrities also stand up for the preservation of the planet. For example, in 2021, the famous actor Matt Damon invited investors to invest in water, as our key resource. In 2009, he co-founded the non-profit organization Water.org, which paid off 7.2 million loans. To date, water is the most widely used renewable energy source. It is estimated to have the capacity to produce enough energy to meet the needs of 28.3 million people.

GEOTHERMAL ENERGY - FROM NOVELTY TO TREND

Geothermal energy was used as early as the mid-1860s. Hotels in the state of Oregon used geothermal energy from underground hot springs to heat water in rooms and other hotel facilities, and the first geothermal plant opened in California in 1921, which led to numerous research and development studies at universities and paved the way for the first equipment for geothermal heating, which was made in 1948.

As we can see, the story of renewable energy sources is not "new", nor is it a matter of "trend", but there has always been a need to use natural capacities.

When it comes specifically to wind energy, which is also used in Serbia, although it is still in its infancy, it should be noted that China is the world leader in the production of wind energy.

Statistics show that two wind turbines are built every hour; and it has been like that since 2017. So far, more than 92,000 turbines have been built in that country, which can produce 145 gigawatts of electricity. China is also currently on track to launch a primary project to build the world's largest offshore wind farm.

In contrast, wind farms in the United States generate only half of this capacity. But it should also be noted that, currently, the largest wind turbine in the world is located in Hawaii: it has 20 floors and blades the length of a football field. Wind power in Hawaii has the potential to provide all of the sector's electricity generation. By 2045, this US state plans to be 100% dependent on renewable energy for all electricity consumption.

GN

Ušteda na duge staze

Kada ljudi prevaziđu kapitalne troškove, oni su u mnogo boljoj poziciji da smanje svoje tekuće troškove energije i bolje upravljaju rastućim troškovima života



Postoji mnogo istraživanja koja pokazuju da će nam elektrifikacija domova uštedeti novac na duže staze i pomoći u smanjenju emisije ugljenika. Ali, jedna od glavnih prepreka za mnoga domaćinstva koja žele da sve elektrifikuju jeste početni trošak. Efikasni električni uređaji kao što su indukcijske peći, toplotne pumpe i električna vozila, obično koštaju više od jeftinijih električnih opcija ili uređaja i vozila na fosilna goriva.

Međutim, kada ljudi prevaziđu kapitalne troškove, oni su u mnogo boljoj poziciji da smanje svoje tekuće troškove energije i bolje upravljaju rastućim troškovima života. Osim toga, većina vlada nudi neke od značajnih finansijskih podsticaja ili daje popuste, kako bi pomogle porodicama i pojedincima u smanjenju početnih troškova zamene gasa i drugih neefikasnih uređaja - efikasnim.

Ovi podsticaji se razlikuju od države do države i mogu smanjiti troškove kupovine za hiljade dolara, u zavisnosti od uređaja. Prihvatljivi sistemi obuhvataju:

solarne fotonaponske panele, vetroturbine, hidrosisteme, solarne grejače vode i toplotne pumpe za vazduh.

AUSTRALIJSKI MODEL

Za primer ovaj put možemo uzeti Australiju, koja je razvila tzv. NILS šemu (No Interest Loans Scheme). NILS, naime, nudi pojedincima i porodicama sa niskim primanjima pristup povoljnijim kreditima do 2.000 dolara za osnovne robe i usluge, a mogu se koristiti i za kupovinu novih efikasnih električnih uređaja. NILS nudi više od 175 organizacija lokalnih zajednica na više od 600 lokacija širom Australije, a zajmovi su dostupni za kvalifikovane koncesionare i ljude koji zarađuju manje od 70.000 dolara godišnje, pre oporezivanja, ili 100.000 dolara ako imate partnera ili decu, ili ste doživeli nasilje u porodici u poslednjih 10 godina.

Osim NILS-a, dostupan je i program HEUF (Household Energy Upgrades Fund), koji podrazumeva to da je australijska vlada izdvojila



Savings in the Long Run

Once people overcome capital costs, they are in a much better position to reduce their ongoing energy costs and manage the rising cost of living in a better way

There is a lot of research showing that electrifying homes will save us money in the long run and help reduce carbon emissions. But one of the main obstacles for many households that want to electrify everything is the initial cost. Efficient electrical appliances such as induction furnaces, heat pumps and electric vehicles usually cost more than cheaper electrical options or fossil fuel appliances and vehicles.

However, once people overcome capital costs, they are in a much better position to reduce their ongoing energy costs and manage the rising cost of living in a better way. In addition, most governments now offer some significant financial incentives or discounts to help families and individuals reduce the initial cost of replacing gas and other inefficient appliances with efficient ones.

These incentives vary from state to state and can reduce purchase costs by thousands of dollars, depending on the device. Acceptable systems include: solar photovoltaic panels, wind turbines, hydro systems, solar water heaters and air heat pumps.

AUSTRALIAN MODEL

For example, this time we can take Australia, which developed the so-called NILS scheme (No Interest Loans Scheme). NILS, namely, offers low-income individuals and families access to more favorable loans of up to \$2,000 for basic goods and services, which can also be used to purchase new efficient electrical appliances. NILS is offered by more than 175 local community organizations in more than 600 locations across Australia, and loans are available to qualified concessionaires and people who earn less than \$70,000 a year, before tax, or \$100,000 if you have a partner or children, or have experienced violence in family in the last 10 years.

In addition to NILS, the HEUF (Household Energy Upgrades Fund) program is also available, which means that the Australian government has set aside a billion dollars to create the Household Energy Upgrade Fund, which provides discounted financing to consumers through banks and other lenders for upgrade of energy efficiency. It is also about high-performance devices and solar photovoltaic batteries.



SAVE ENERGY

Prihvatljivi sistemi obuhvataju: solarne fotonaponske panele, vetroturbine, hidrosisteme, solarne grejače vode i toplotne pumpe za vazduh



milijardu dolara za stvaranje Fonda za unapređenje energije u domaćinstvima, a on obezbeđuje sniženo finansiranje potrošača preko banaka i drugih zajmodavaca za nadogradnju energetske efikasnosti. Reč je i o uređajima visokih performansi i solarnim fotonaponskim baterijama. Očekuje se da će ovaj program biti dostupan sledeće finansijske godine.

BENEFICIJE PLATNOG PAKETA

Svakako, ne treba zaboraviti ni podsticaje za električna vozila. Tako je prag od 5 odsto poreza na luksuzne automobile, uvezene u Australiju, podignut za vozila sa štedljivom potrošnjom goriva, i to na 89.332 dolara. Cilj je da se podstakne upotreba više električnih vozila u zemlji, a Poreska uprava definiše vozila sa štedljivom potrošnjom goriva kao vozila čija potrošnja goriva ne prelazi 7 litara na 100 kilometara. Ova norma bi trebalo da snizi oko 2.500 dolara od nabavne cene.

Od jula 2022. godine ukinuta je i carina na električna vozila, plug-in hibridna vozila i vozila sa ćelijama vodonika, čija je carinska vrednost manja od poreskog praga za luksuzne automobile koji štede gorivo. Jedini izuzetak su, ističe se, vozila iz Rusije i Belorusije koja imaju dodatnu carinu od 35 odsto. Ali, od jula 2022. godine, poslodavci ne moraju da plaćaju ni porez na dodatne beneficije na automobile sa nultom emisijom ili niskim emisijama, ili troškove automobila. Te beneficije se obezbeđuju u okviru platnog paketa.

DOBRI EVROPSKI PRIMERI

I Stari kontinent nastoji da popularizuje ideju o održivosti, zelenoj energiji i elektrifikaciji, i nastavlja da se drži plana o CO2 neutralnosti do 2050. godine. Gotovo sve zemlje - članice EU, nude neke vidove podsticaja za prelazak na zelenu električnu energiju.

Konkretno šesnaest država-članica koristi poreske olakšice za promovisanje zelene električne energije, istovremeno sa drugim promotivnim merama. Međutim, ne promovišu se sve dostupne tehnologije. Na primer, šest država članica (Nemačka, Rumunija, Slovačka Republika, Danska, Švedska i Poljska) je uključilo izuzeće od plaćanja akciza za električnu energiju kada se električna energija proizvodi iz obnovljivih izvora energije. Ovaj poreski podsticaj se najviše koristi.

Ograničene poreske olakšice za porez na dohodak fizičkih lica dostupne su u Belgiji, Francuskoj, Češkoj Republici i Luksemburgu. U porezu na preduzeća, poreski podsticaji se uglavnom sastoje od odbitka.

GN ►►

Acceptable systems include: solar photovoltaic panels, wind turbines, hydro systems, solar water heaters and air heat pumps



This program is expected to be available next financial year.

BENEFITS PACKAGE

Certainly, we should not forget the incentives for electric vehicles. Thus, the threshold of 5 percent tax on luxury cars imported into Australia has been raised for fuel-efficient vehicles to \$89,332. The goal is to encourage the use of more electric vehicles in the country, and the Tax Administration defines fuel-efficient vehicles as vehicles whose fuel consumption does not exceed 7 liters per 100 kilometers. This norm should decrease about \$2,500 off the purchase price.

From July 2022, the customs duty on electric vehicles, plug-in hybrid vehicles and vehicles with hydrogen cells, whose customs value is lower than the tax threshold for fuel-efficient luxury cars, has also been abolished. The only exception, it is pointed out, are vehicles from Russia and Belarus, which have an additional customs duty of 35 percent. But from July 2022, employers do not have to pay fringe benefits tax on zero-emission or low-emission cars, or the cost of the car. These benefits are provided within the pay package.

GOOD EUROPEAN PRACTICES

And the Old Continent strives to popularize the idea of sustainability, green energy and electrification, and continues to adhere to the plan of CO2 neutrality by 2050. Almost all EU member countries offer some kind of incentives for switching to green electricity.

In particular, sixteen member states use tax incentives to promote green electricity, simultaneously with other promotional measures. However, not all available technologies are promoted. For example, six member states (Germany, Romania, Slovak Republic, Denmark, Sweden and Poland) have included an exemption from excise duty for electricity when electricity is produced from renewable energy sources. This tax incentive is used the most.

Limited tax incentives on personal income are available in Belgium, France, the Czech Republic and Luxembourg. In corporate tax, tax incentives mainly consist of the deduction of taxable profits (Belgium, Greece, the Czech

SAVE ENERGY



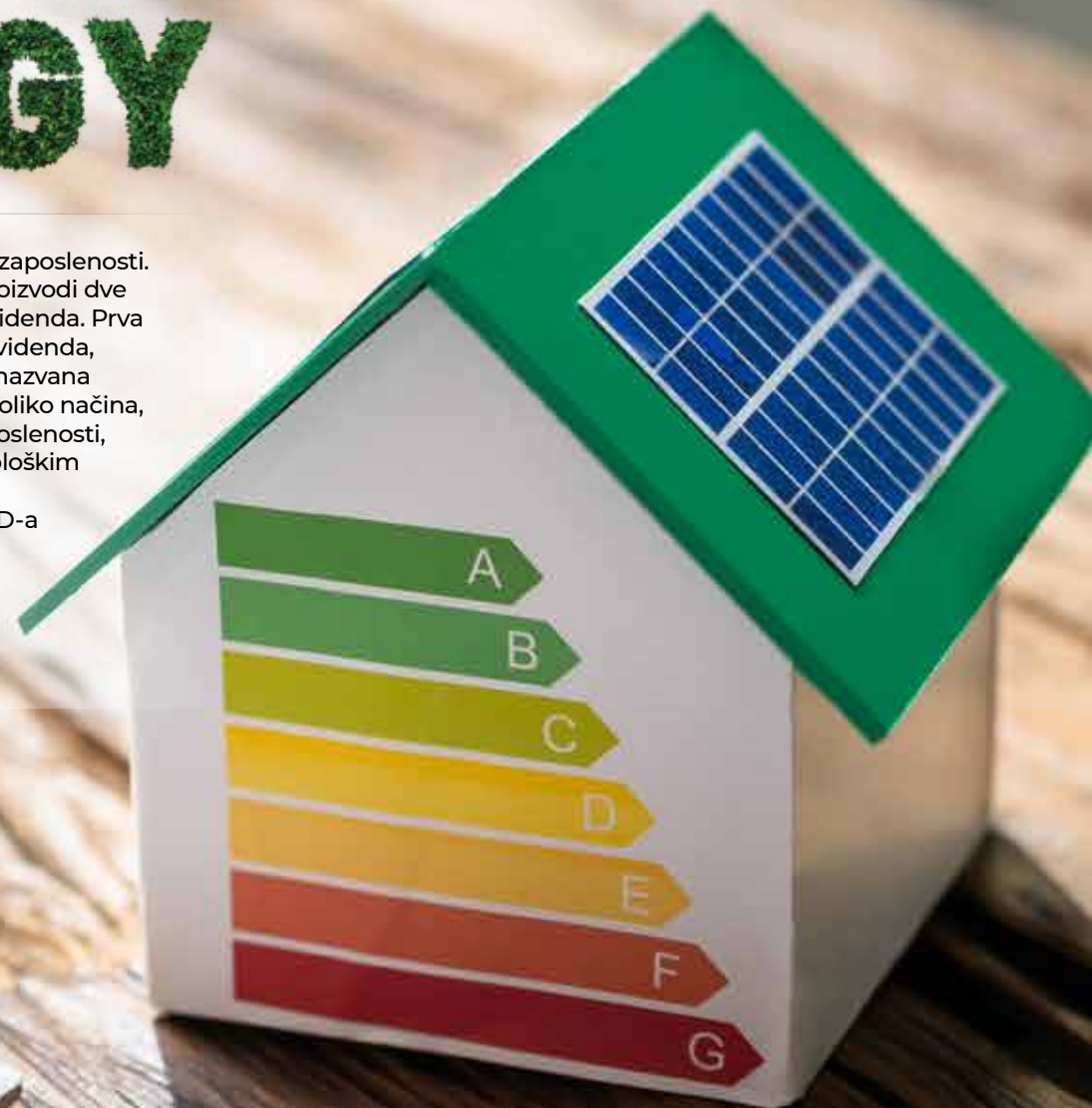
oporezive dobiti (Belgija, Grčka, Češka i Španija), dok se niže poreske stope PDV-a primenjuju u tri zemlje članice, a to su Francuska, Italija i Portugal. Samo Španija i Italija, pritom, koriste efektivne poreske olakšice u porezu na imovinu.

Poreske inicijative u zemljama EU, za promovisanje implementacije i korišćenja obnovljivih izvora energije, opravdane su kao izvor ekoloških beneficija zbog smanjenja efekata staklene bašte. U pogledu koristi za životnu sredinu, Evropska komisija je procenila da bi prelaskom na obnovljive izvore energije EU mogla da smanji potrošnju fosilnih goriva za 200-300 miliona tona godišnje i da smanji emisiju CO₂ za 600-900 miliona tona godišnje.

Promovisanje obnovljivih izvora energije može imati

i druge koristi kao što je doprinos neto zaposlenosti. U stvari, korišćenje ekoloških poreza proizvodi dve vrste koristi, poznate kao dvostruka dividenda. Prva i najdirektnija korist, nazvana zelena dividenda, jeste očuvanje životne sredine. Druga, nazvana plava dividenda, može se dobiti na nekoliko načina, uključujući pozitivan uticaj na nivo zaposlenosti, zbog poreske reforme povezane sa ekološkim porezima koji smanjuju poreze na rad.

U tom smislu, većina zemalja OECD-a je uspostavila ekološke takse kako bi podstakla očuvanje energije i očuvanje životne sredine, svesne da reforme proizvode i dodatne pozitivne efekte.



Republic and Spain), while lower VAT tax rates apply in three member states - France, Italy and Portugal. However, only Spain and Italy use effective tax incentives in property tax.

Tax initiatives in EU countries, to promote the implementation and use of renewable energy sources, are justified as a source of environmental benefits due to the reduction of greenhouse effects. In terms of environmental benefits, the European Commission has estimated that by switching to renewable energy sources, the EU could reduce fossil fuel consumption by 200-300 million tons per year and reduce CO₂ emissions by 600-900 million tons per year.

Promoting renewable energy sources can also have other benefits such as contributing to net employment. In fact, the use of environmental taxes produces two types of benefits, known as a double dividend. The first and most direct benefit, called the green dividend, is environmental protection. The second, called the blue dividend, can be obtained in several ways, including a positive impact on employment levels, due to tax reform linked to environmental taxes that reduce taxes on labor.

In this sense, most OECD countries have established environmental taxes to encourage energy conservation and environmental protection, aware that reforms produce additional positive effects.



Tax incentives on limited personal income are available in Belgium, France, the Czech Republic and Luxembourg

Ograničene poreske olakšice za porez na dohodak fizičkih lica dostupne su u Belgiji, Francuskoj, Češkoj Republici i Luksemburgu

Jeftina opcija za duboko skladištenje

Inexpensive Option for Deep Storage

RAYGEN

The company has solved a key challenge of concentrated solar projects - how to efficiently store excess energy during sunny days and use it when the sun goes down

RAYGEN

Kompanija je rešila ključni izazov koncentrisanih solarnih projekata - kako efikasno skladištiti višak energije za vreme sunčanih dana i koristiti je kada sunce zađe



Australijska kompanija RayGen predstavila je revolucionarnu solarnu tehnologiju sa sposobnošću jeftinog i efikasnog dubokog skladištenja energije.

Projekat smešten u Karvorpu, Viktorija, otvorio je vrata inovaciji koja bi mogla da promeni pejzaž obnovljivih izvora energije u Australiji.

REŠILI KLJUČNI IZAZOV

RayGen, osnovan decenijama unazad, razvio je kompaktni solarni modul veličine dlana ruke sa kapacitetom od 2,5 kW, sličnom tradicionalnim PV sistemima postavljenim na krovovima kuća, ali ključna razlika leži u načinu skladištenja. Kompanija

je rešila ključni izazov koncentrisanih solarnih projekata - kako efikasno skladištiti višak energije za vreme sunčanih dana i koristiti je kada sunce zađe. RayGen je postavio module na solarnim tornjevima, opremljenim heliostatima (gigantskim ogledalima) koja reflektuju sunčevu svetlost na prijemnik.

Svaka jedinica od 1 MW koristi manje heliostata nego tradicionalni sistemi, smanjujući troškove i olakšavajući instalaciju. Skladištenje energije je ključni deo ove tehnologije. RayGen koristi vruće i hladne lagune sa niskim temperaturama i Organic Rankine Cycle turbine za pretvaranje viška toplote u električnu energiju. Ovo rešenje omogućava efikasno skladištenje i ponovno pretvaranje toplote u električnu energiju kada je potrebno.



Australian company RayGen has introduced revolutionary solar technology with the ability of cheap and efficient deep storage of energy.

The project, located in Carworpu, Victoria, has opened the door to an innovation that could change the landscape of renewable energy in Australia.

SOLVED KEY CHALLENGE

RayGen, founded decades ago, has developed a compact palm-sized solar module with a capacity of 2.5 kW, similar to traditional PV systems installed on rooftops, but the key difference lies in the way it is stored. The company has solved a

key challenge of focused solar projects - how to efficiently store excess energy during sunny days and use it when the sun goes down. RayGen has placed the modules on solar towers, equipped with heliostats (giant mirrors) that reflect sunlight onto the receiver.

Each 1 MW unit uses fewer heliostats than traditional systems, reducing costs and simplifying installation. Energy storage is a key part of this technology. RayGen uses hot and cold lagoons with low temperatures and Organic Rankine Cycle turbines to convert excess heat into electricity.

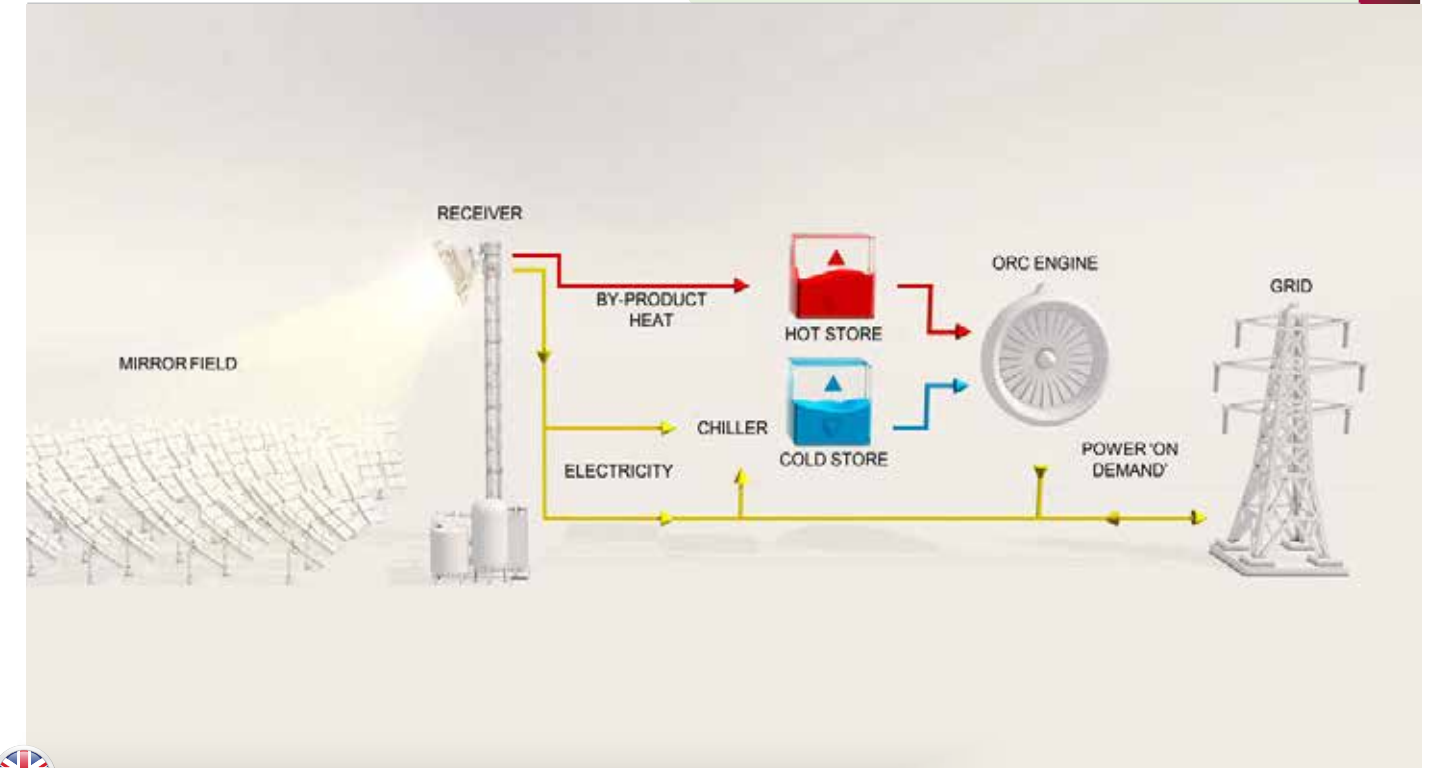
This solution enables efficient storage and re-conversion of heat into electricity when needed.



INOVACIJA KOJA JE PRIVUKLA INVESTITORE

RayGenova tehnologija privukla je značajne investitore poput Chevrona, Schlumbergera, Equinora i AGL-a. AGL planira da primeni ovu tehnologiju na postrojenju za uglj Liddell, dok Photon Energy planira razvoj komercijalnog projekta od 200 MW u Južnoj Australiji. Ovim projektom stvara se jeftina i

raspodeljiva obnovljiva energija koja može da reši izazove dugotrajnih perioda bez sunčeve energije, ili energije vetra. Ova tehnologija predstavlja značajan korak prema postizanju nultih emisija i zahteva saradnju vlade i privatnog sektora. Za razliku od drugih solarnih termalnih projekata, ova tehnologija ne predstavlja pretnju za ptice i zadovoljava ekološke standarde. Sa ovim inovativnim pristupom, RayGen otvara put ka boljoj energetskej budućnosti Australije.



INNOVATION THAT ATTRACTED INVESTORS

RayGen's technology has attracted significant investors such as Chevron, Schlumberger, Equinor and AGL. AGL plans to deploy the technology at the Liddell coal plant, while Photon Energy plans to develop a 200 MW commercial project in South Australia.

This project creates cheap and distributable

renewable energy that can solve the challenges of long periods without solar energy, or wind energy.

This technology represents a significant step towards achieving zero emissions and requires the cooperation of the government and the private sector. Unlike other solar thermal projects, this technology does not pose a threat to birds and meets environmental standards. With this innovative approach, RayGen is paving the way for a better energy future for Australia.



Pulsirajuće pumpanje štedi energiju

Pulsating Pumping Saves Energy

Za optimizovano pulsirajuće pumpanje slično onom u ljudskom srcu, istraživači su otkrili smanjenje srednjeg trenja za 27 procenata i smanjenje potražnje za energijom za 9 procenata

For optimized pulsatile pumping similar to that of the human heart, researchers found 27 percent reduction in mean friction and 9 percent reduction in energy demand

Pumpanje tečnosti može izgledati kao “rešen problem”, ali optimizacija procesa je i dalje predmet aktivnog istraživanja. Bilo koja primena pumpanja - od industrijskih vaga do sistema grejanja kod kuće - imala bi koristi od smanjenja potreba za energijom.

Dobra vest je, svakako, da pomaka na tom polju ima. Naime, istraživači sa Instituta za nauku i tehnologiju u Austriji pokazali su kako pulsirajuće pumpanje može smanjiti trenje i potrošnju energije pumpanja. Za ovu studiju su dobili inspiraciju iz sistema pumpanja koji je svima blisko poznat, a to je: ljudsko srce.

Prema međunarodnoj studiji, skoro dvadeset procenata globalne električne energije se koristi za pumpanje tečnosti naokolo - od industrijskih platformi za pumpanje nafte i gasa, do instalacija za grejanje koje pumpaju toplu vodu u privatnim kućama.

Liquid pumping may seem like a “solved problem,” but process optimization is still a subject of active research. Any pumping application - from industrial scales to home heating systems - would benefit from reduced energy requirements.

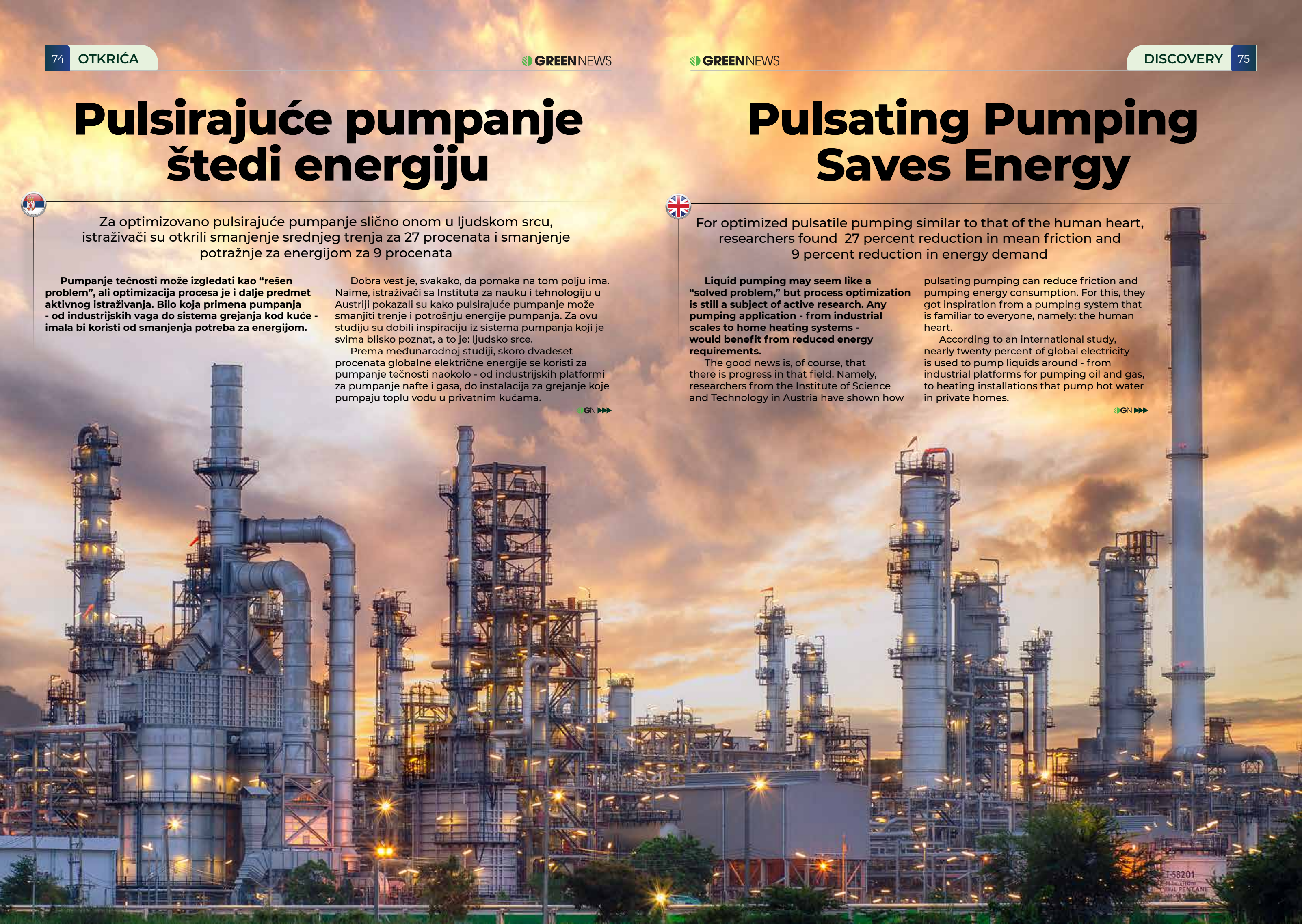
The good news is, of course, that there is progress in that field. Namely, researchers from the Institute of Science and Technology in Austria have shown how

pulsating pumping can reduce friction and pumping energy consumption. For this, they got inspiration from a pumping system that is familiar to everyone, namely: the human heart.

According to an international study, nearly twenty percent of global electricity is used to pump liquids around - from industrial platforms for pumping oil and gas, to heating installations that pump hot water in private homes.

GN >>>

GN >>>



20% globalne električne energije se koristi za pumpanje tečnosti - od industrijskih platformi za pumpanje nafte i gasa, do instalacija za grejanje

20% of global electricity is used to pump liquids - from industrial oil and gas pumping platforms to heating installations



Stoga je tim istraživača sa Instituta za nauku i tehnologiju Austrije (ISTA) tražio način da smanji ove potrebe za energijom, uzimajući inspiraciju iz prirode. U novoj studiji, koja je sada objavljena u naučnom časopisu "Nature", naučnici su pokazali da pumpanje tečnosti kroz cev u impulsima - slično kao što ljudsko srce pumpa krv - može smanjiti trenje u cevi, a samim tim i potrošenu energiju.

"Tokom godina, istraživači i inženjeri su pokušavali da učine pumpanje tečnosti efikasnijim", rekao je Davide Scarselli, prvi autor studije i dodao:

"Mnoga rešenja se simuliraju ili testiraju u laboratorijama, ali su često previše složena i preskupa da bi se primenila u stvarnim industrijskim aplikacijama. Tražili smo pristup koji ne zahteva komplikovane strukturne promene u infrastrukturi kao što su senzori i aktuatori".

Umesto da promene sastav cevi kako bi smanjili trenje između tečnosti u pokretu i zidova cevi, naučnici su pokušali drugačiji pristup.

"Kao i svaki deo našeg tela, ljudsko srce je oblikovano milionima godina evolucije", objašnjava Bjorn Hof, profesor na ISTA. "Za razliku od uobičajenih mehaničkih pumpi, koje stvaraju stalan tok tečnosti, srce pulsira. Bili smo radoznali da li postoji prednost ovog neobičnog oblika pogona", naveo je Hof dalje.

U tu svrhu, Scarselli i njegov kolega Atul Varšnej napravili su nekoliko eksperimentalnih postavki, koristeći prozirne cevi različitih dužina i prečnika kroz koje su pumpali vodu.

"Osnovna linija za naše eksperimente bio je stabilan tok vode, gde su se vrtlozi haotično pravili, dok su se gurali kroz cev", priča Scarselli.

Ovi vrtlozi se nazivaju "turbulencija", i stvaraju veliko trenje između tečnosti i zidova cevi. Istraživači su "turbulenciju" učinili vidljivom dodavanjem sitnih reflektujućih čestica u vodu i sisanjem lasera kroz prozirnu cev.

Scarselli kaže da laser izbacuje svetlost kroz cev u



That is why a team of researchers from the Austrian Institute of Science and Technology (ISTA) looked for a way to reduce these energy needs, taking inspiration from nature. In a new study, which has now been published in the scientific journal "Nature", scientists have shown that pumping fluid through a tube in pulses - similar to how the human heart pumps blood - can reduce friction in the tube, and therefore energy consumption.

"Over the years, researchers and engineers have tried to make pumping liquids more efficient," said Davide Scarselli, first author of the study, adding:

"Many solutions are simulated or tested in laboratories, but they are often too complex and therefore too expensive to implement in real industrial applications. We were looking for an approach that does not require complicated structural changes in the infrastructure such as sensors and actuators".

Instead of changing the composition of the pipe to reduce the friction between the moving fluid and the

pipe walls, the scientists tried a different approach.

"Like every part of our body, the human heart has been shaped by millions of years of evolution," explains Björn Hof, professor at ISTA. "Unlike the usual mechanical pumps, which create a constant flow of liquid, the heart pulsates. We were curious if there was an advantage to this unusual form of drive," Hoff continued.

To this end, Scarselli and his colleague Atul Varshney created several experimental setups, using transparent pipes of different lengths and diameters to pump water through.

"The baseline for our experiments was a steady flow of water, where eddies formed chaotically as they pushed through the pipe," says Scarselli.

These eddies are called "turbulence", and they create a lot of friction between the liquid and the pipe walls. The researchers made the "turbulence" visible by adding tiny reflective particles to the water and shining a laser through a transparent tube.



Institute of
Science and
Technology
Austria



horizontalnom sloju i reflektuje se od čestica. „Zatim smo snimili slike koje su mogle da se koriste da otkrijemo da li je tok bio turbulentan ili laminaran”.

Austrijski naučnici su, takođe, isprobali nekoliko načina pulsirajućeg pumpanja. Neki impulsi režimi bi prvo polako ubrzavali vodu, a zatim je brzo zaustavili, dok bi drugi to radili obrnuto.

Hof objašnjava rezultate: „Uobičajeno, pulsiranje je povećalo otpor i energiju potrebnu za pumpanje, što nije bilo ono što smo tražili. Međutim, kada smo uveli kratku fazu mirovanja između impulsa gde pumpa ne gura vodu – baš kao što to čini ljudsko srce – dobili smo mnogo bolje rezultate”.

„Sa ovim fazama mirovanja između impulsa pumpanja, količina turbulencije u cevi se drastično smanjila. Tokom faze odmora, nivoi turbulencije su smanjeni i to čini sledeću fazu ubrzanja mnogo efikasnijom u smanjenju trenja”, nadovezao se Skarselli.

Za optimizovano pulsirajuće pumpanje slično onom u ljudskom srcu, istraživači su otkrili smanjenje srednjeg trenja za 27 procenata i smanjenje potražnje za energijom za 9 procenata.



Scarselli says the laser emits light through the tube in a horizontal layer and is reflected off the particles. „We then captured images that could be used to detect whether the flow was turbulent or laminar.”

Austrian scientists have also tried several methods of pulsatile pumping. Some pulse modes would first slowly accelerate the water and then quickly stop it, while others would do it the other way around.

Hoff explains the results: „Typically, pulsing increased the resistance and energy required for pumping, which was not what we were looking for. However, when we introduced a short resting phase between pulses where the pump does not push water – just like the human heart does – we got much better results”.

„With these resting phases between pumping pulses, the amount of turbulence in the tube is drastically reduced. During the rest phase, turbulence levels are reduced and this makes the next acceleration phase much more effective in reducing friction,” Scarselli added.

For optimized pulsatile pumping similar to that of the human heart, the researchers found 27 percent reduction in mean friction and 9 percent reduction in energy demand.



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Osim što podržava bogatu biološku raznolikost, Amazon je i najveća prašuma na svetu, koja igra ključnu ulogu u apsorpciji i skladištenju ugljen-dioksida, posebno važnoj u eri rastućih emisija ugljen-dioksida.

Međutim, širenje deforestacije i sve učestaliji požari, pogoršani klimatskim promenama,

svakodnevno uništavaju prirodna staništa, ugrožavajući mnoge važne i retke vrste. Situacija se pogoršala tokom mandata brazilskog predsednika Žaira Bolsonaro, koji je poznat po podsticanju seče šuma i širenju rudarstva, što je dovelo do toga da se za njegovog mandata poseklo više šume nego u prethodnih petnaest godina.

Ovih sedam životinjskih vrsta su, kako tvrde stručnjaci, najugroženije ovakvim sledom događaja i javašlukom iza kojeg stoje pohlepa i nebriga za zaštitu prirodnih resursa.

Seven Species on the Verge of Extinction!

The world's largest rainforest plays a key role in absorbing and storing carbon dioxide



The Amazon is home to more than 40,000 plant and 4,000 animal species, including 3,000 species of freshwater fish, thousands of birds and butterflies, as well as mammals.

In addition to supporting rich biodiversity, the Amazon is also the world's largest rainforest, which plays a key role in the absorption and storage of carbon dioxide, especially important in an era of rising carbon dioxide emissions.

However, the spread of deforestation and frequent fires, exacerbated by climate change, are

destroying natural habitats every day, endangering many important and rare species. The situation worsened during the tenure of Brazilian President Jair Bolsonaro, who is known for encouraging deforestation and expanding mining, resulting in more forests being cut down during his tenure than in the previous fifteen years.

According to the experts, these seven animal species are the most threatened by this sequence of events and by the reasoning behind which there are greed and carelessness for the protection of natural resources.



Hijacitna ara

Ovaj upečatljivo plav papagaj je sve ugroženija vrsta usled krčenja šuma, krivolova i trgovine egzotičnim kućnim ljubimcima.



Hyacinth macaw

This striking blue parrot is an increasingly endangered species due to deforestation, poaching and the exotic pet trade.



Južnoamerički tapir

Gubitak staništa, ilegalni lov i krivolov dovode tapire na ivicu izumiranja.



South American Tapir

Habitat loss, illegal hunting and poaching are bringing tapirs to the brink of extinction.



Velike vidre

Ove vidre su ubedljivo najveća stvorenja iz porodice vidri i često se viđaju u peruanskom delu prašume Amazona. Uništavanje staništa, zagađenje vode i prekomerni ribolov ozbiljno ugrožavaju njihov opstanak.



Big otters

These otters are by far the largest creatures in the otter family and are often seen in the Peruvian Amazon rainforest. Habitat destruction, water pollution and overfishing seriously threaten their survival.



Uakari majmun

Uakari majmun ima svetlocrveno lice i ćelavu glavu. Krčenje šuma uništava njihovo prirodno stanište, otežavajući im traženje hrane i gnežđenje.



Uakari monkey

The uakari monkey has a bright red face and a bald head. Deforestation destroys their natural habitat, making it difficult for them to forage and nest.



Najveća mačka u Americi. Jaguar je jedna od najpoznatijih vrsta u Amazonu i trenutno je ugrožena zbog uništavanja ekosistema. Ovi veliki „mačići“ su dobri plivači i penjači, te zahtevaju velike površine tropskih prašuma i obale reka da bi preživeli. Gubitak staništa, rastući sukobi sa farmerima i rančerima, kao i klimatske promene, doveli su ove životinje na ivicu izumiranja.

Jaguar



The biggest cat in America. The jaguar is one of the most famous species in the Amazon and is currently endangered due to the destruction of the ecosystem. These large „kittens“ are good swimmers and climbers, and require large areas of tropical rainforests and riverbanks to survive. Loss of habitat, growing conflicts with farmers and ranchers, as well as climate change, have brought these animals to the brink of extinction.



Amazonski rečni delfin

Takođe poznat kao ružičasti rečni delfin, živi samo u slatkovodnim rekama Amazona. Iako je delfin zaštićen u Brazilu, njegova populacija i dalje se smanjuje zbog lova i zagađenja vode.



Amazon river dolphin

Also known as the pink river dolphin, it lives only in the freshwater rivers of the Amazon. Although the dolphin is protected in Brazil, its population continues to decline due to hunting and water pollution.





Šta učiniti?

Ovi podaci ukazuju na ozbiljnu pretnju po biodiverzitet Amazona i nužnost očuvanja ugroženih vrsta. Zajednički napori za zaštitu ovih vrsta i očuvanje njihovih staništa ključni su za očuvanje bogatstva Amazona i celokupne svetske prirodne baštine. Zato je neophodno, na globalnom planu, pokrenuti akcije koje bi najpre upoznale ljude sa posledicama gubitka ovih retkih vrsta, ali i poslala jasno upozorenje da su ovih sedam vrsta samo početak kraja. Na red će, nemarom i okretanjem glave od rešavanja problema, doći i druge vrste. Moramo se zajedničkim snagama boriti za ugrožene vrste, jer ćemo, u protivnom, uskoro i sami postati ugrožena vrsta - polako, ali sigurno, uništit ćemo svoja staništa i resurse koji nam pomažu da milionima godina opstajemo na ovoj planeti.



What should be done?

These data indicate a serious threat to the biodiversity of the Amazon and the necessity of preserving endangered species. Joint efforts to protect these species and preserve their habitats are key to preserving the wealth of the Amazon and the entire world's natural heritage. That is why it is necessary, on a global level, to initiate actions that would first inform people of the consequences of the loss of these rare species, but also send a clear warning that these seven species are only the beginning of the end. It will be the turn of other species, due to negligence and turning heads away from solving the problem. We must fight together for endangered species, because otherwise we will soon become an endangered species ourselves - slowly but surely, we will destroy our habitats and resources that have helped us survive on this planet for millions of years.



Žabe otrovnice

Više od 100 vrsta žaba otrovnica živi u Amazonu, ali njihov opstanak je ugrožen zbog gubitka staništa i bolesti.



Poisonous frogs

More than 100 species of poisonous frogs live in the Amazon, but their survival is threatened by habitat loss and disease.

Put ka održivosti počinje u IEE corporation-u

Path to sustainability begins at IEE Corporation

Mi smo vaš globalni partner za razvoj investicija u oblasti čiste energije. Proteklih 15 godina, posvećeni smo stvaranju inovativnih rešenja za budućnost u okviru čiste energije i racionalne upotrebe resursa. Od hidro, vetro i solarnih postrojenja do termoenergetike i naprednih pametnih infrastrukturnih projekata, industrijskih rešenja bez emisije CO₂, naša referenca govori sve.

We are your global partner for clean energy investment development. Over the past 15 years, we have dedicated to shaping innovative solutions for the future within clean energy and rational resource usage. From hydro, wind, and solar plants to thermal energy systems and advanced smart infrastructure projects, carbon-free industrial solutions, our portfolio speaks for itself.

Srbija dobija 600MW obnovljive energije

Serbia Receives 600MW of Renewable Energy

Društvo, u celini, želi da doprinese smanjenju štetnih emisija ugljenika, te da sačuva dragocene izvore vode, šume, zemljišta

Society, as a whole, wants to contribute to the reduction of harmful carbon emissions and to preserve precious sources of water, forests, and soil



Prema aktuelnim podacima, Srbija će u naredne tri godine, dakle do 2026, dobiti 600 novih megavata obnovljive energije, što je rezultat prve aukcije u našoj zemlji i najveće u regionu za takve projekte.

Na aukciji su se nametali domaći i strani investitori, a kako je istaknuto, postoji veliko interesovanje za gradnju novih vetroparkova. Samim tim, raste i konkurencija. Za sada se, doduše, primećuje nešto slabija ponuda za kapacitete solarne energije.

Kada je reč o prvim aukcijama za dodelu tržišnih premija za obnovljive izvore energije, investitori su ponudili gotovo 1,3 milijarde evra ulaganja u energiju vetra i sunca. Ova vrsta energije, nastala kao ekološka,

zelena alternativa konvencionalnoj, privlači sve pažnje širom sveta i što je najvažnije - u raznim sektorima. Dakle, njena primena nije vezana za određene krugove delovanja, već za razne privredne grane, ali i sama domaćinstva.

Društvo, u celini, želi da doprinese smanjenju štetnih emisija ugljenika, te da sačuva dragocene izvore vode, šume, zemljišta.

Kako je rekla ministarka rudarstva i energetike, Dubravka Đedović Handanović, Srbija je dobila veoma povoljne cene na prvim aukcijama, a za veći deo kapaciteta - skoro dvostruko niže cene od tržišnih cena za električnu energiju. To će, kaže, omogućiti da se kroz ove prve aukcije duplo povećaju kapaciteti naše zelene energije, u odnosu na sada.



According to current data, in the next three years, until 2026, Serbia will receive 600 new megawatts of renewable energy, which is the result of the first auction in our country and the largest in the region for such projects.

At the auction, domestic and foreign investors applied, and as it was pointed out, there is great interest in the construction of new wind farms. As a result, the competition is growing. However, a somewhat weaker offer for solar energy capacities has been noticed.

When it comes to the first auctions for the allocation of market premiums for renewable energy sources, investors have offered almost 1.3 billion euros

of investments in wind and solar energy. This type of energy, created as an ecological, green alternative to the conventional one, attracts all the attention around the world and most importantly - in various sectors. Therefore, its application is not related to specific spheres of activity, but to various economic branches, as well as households themselves.

Society, as a whole, wants to contribute to the reduction of harmful carbon emissions, and to preserve precious sources of water, forests, and soil.

As Dubravka Đedović Handanović, the Minister of Mining and Energy, said, Serbia received very favorable prices at the first auctions, and for most of the capacity - prices almost twice lower than market prices for electricity. This, she says, will make it possible to double

„Srbija je dobila veoma povoljne cene na prvim aukcijama, a za veći deo kapaciteta - skoro dvostruko niže cene od tržišnih cena za električnu energiju

MINISTARKA RUDARSTVA I ENERGETIKE

Dubravka Đedović

THE MINISTER OF MINING AND ENERGY



„Serbia received very favorable prices at the first auctions, and for most of the capacity - prices almost twice lower than market prices for electricity



„Takođe generisaćemo investicije u našu zemlju, kaže ministarka rudarstva i energetike”.

Srbija, inače, već ima osam vetroparkova snage 398 megavata i dva vetroparka koja su u izgradnji. Ove aukcije donose izgradnju još četiri vetroelektrane i to na području: Pančevo, Kovina, Kovačice i Crnom Vrh, kao i tri manja solarna parka u Knjaževcu, Lebanu i Čupriji.

„Nažalost i ove aukcije su pokazale da je tržište solara daleko slabije razvijeno od tržišta energije vetra, i da su nam potrebni jaki igrači i dobri investitori i u oblasti solarne energije kako bi sledeće aukcije koje se očekuju sledeće godine bile konkurentnije. Ako pričamo o 20 hiljada zahteva za priključenje pokazuje da je potencijal ogroman. Aukcije su praksa svih evropski država. Period „fedin tarifa” je davno završen tako da smo mi sada u jednom modernom aukcijskom svetu i dobro je da postoji trogodišnji plan aukcija”, rekla je direktorka „Udruženja obnovljivih izvora energije Srbije” Daniela Isailović.

Energetska kriza u Evropi podstakla je gradnju elektrana za proizvodnju energije iz vetra, a posebno iz sunca, pri čemu države olakšavaju i privredi, a posebno domaćinstvima, postavljanje solarnih panela. U tome svakako prednjače zemlje Zapadne Evrope, ali i severnog dela. Misli se na Švedsku, Dansku, Norvešku, Nemačku, Austriju, Britaniju.

„Naši troškovi potrošnje električne energije su značano opali. Idemo na zeleno, spasavajući našu planetu. Imamo i električni automobil i ova instalacija košta malo više nego što me je nekada koštalo da napunim auto. Tako da smo zadovoljni”, kazao je vlasnik solarnih panela iz Velike Britanije Norman Pitt.

Analize pokazuju da će svet u narednih pet godina udvostručiti kapacitete zelene energije. Međutim, prema „Međunarodnoj agenciji za obnovljive izvore energije”, to je nedovoljno da se ispuni Pariski dogovor o smanjenju globalnog zagrevanja, te institucije i pojedinci pozivaju na veće korišćenje čiste energije. Ocena je da bi do kraja decenije svet godišnje morao da dodaje čak 1.000 gigavata iz obnovljivih izvora.



the capacity of our green energy through these first auctions, compared to the present.

„We will also generate investments in our country”, says the Minister of Mining and Energy.

Serbia already has eight wind farms with a capacity of 398 megawatts and two wind farms that are under construction. These auctions lead to the construction of four more wind farms in the area of Pančevo, Kovina, Kovačica and Crni Vrh, as well as three smaller solar parks in Knjaževac, Leban and Čupria.

„Unfortunately, these auctions also showed that the solar market is far less developed than the wind energy market. Strong players and good investors are also needed in the field of solar energy in order to make the next auctions, expected next year, more competitive. Twenty thousand requests for the connection show that the potential is huge. Auctions are the practice of all European countries. The „feed-in tariff” period ended a long time ago, so we are now in a modern auction world and it is good that there is a three-year auction plan,” said Daniela Isailović, the director of the Association of Renewable Energy Sources of Serbia.

The energy crisis in Europe encouraged the construction of power plants for the production of energy from the wind, and especially from the sun, whereby states make it easier for the economy, and especially for households, to install solar panels. The countries of Western Europe, as well as the northern part, are certainly leading in this - Sweden, Denmark, Norway, Germany, Austria, and Great Britain.

„Our electricity consumption costs have dropped significantly. We are going green, saving our planet. We also have an electric car and this installation costs a little more than it used to cost me to charge the car. So we are satisfied,” said the owner of the solar panels from Great Britain Norman Pitt.

Analyzes show that the world will double the capacity of green energy in the next five years. However, according to the International Agency for Renewable Energy Sources, this is insufficient to meet the Paris Agreement on reducing global warming, and institutions and individuals are calling for greater use of clean energy. It is estimated that by the end of the decade, the world would have to add as many as 1,000 gigawatts annually from renewable sources.



Elegancija

inspirisana prirodom.



Kao jedan od najbrže rastućih brendova na regionalnom tržištu kućnih aparata, Tesla nudi elegantne i kvalitetne uređaje koji olakšavaju živote, pružaju razne mogućnosti zabave, i omogućuju efikasniju i jednostavniju svakodnevnicu.

Istražite ceo Tesla asortiman na tesla.info. Dobro došli u svet u kojem tehnologija pripada svima.

Tehnologija svima

TESLA

Solarna elektrana Kaljon Karapinara

The Kalyon Karapınar Solar Power Plant

Turska je zvanično pustila u rad najveću solarnu elektranu u Evropi

Turkiye officially launches Europe's largest solar power plant

U Turskoj je, početkom maja ove godine, svečano otvorena najveća solarna elektrana u Evropi sagrađena na jednoj lokaciji, koja je u isto vreme i jedna od pet najvećih takvih elektrana na svetu.

Elektrana je izgrađena u centralnoj turskoj provinciji Konja od strane Kaljon Enerdžija, članice jednog od najjačih turskih konglomerata, Kaljon Holdinga, a posebno se ističe se njen instalirani kapacitet od 1,350 megavata (MW).

Solarna elektrana Kaljon Karapinara obećava da će biti velika pomoć državi u smanjenu dosadašnje ogromne potrebe za uvozom energije, kao i da će dodatno pomoći težnji zemlje za proizvodnju obnovljivih izvora energije, koja je već pokrenuta od strane elektrana velikih razmera na solarni i pogon vetra.

Više od 3,2 miliona solarnih panela, kojima je opremljeno ovo postrojenje, za cilj ima proizvodnju 3 miliona kilovat-časova (kWh) struje godišnje, što je dovoljno da se električnom energijom snabde 2 miliona ljudi. Na ovaj način bi se sprečilo trošenje 450 miliona dolara na fosilna goriva za proizvodnju iste količine električne energije.

Elektrana vredna milijardu dolara već je

počela sa proizvodnjom električne energije, a njenim radom sprečiće se emisija 1,5 miliona tona ugljenika godišnje. Njenim pokretanjem, udeo solarne energije u ukupnoj energetske proizvodnji Turske povećan je za 20 odsto.

Avgusta prošle godine, Kaljon holding dogovorio je prodaju udela 50 odsto kompanije Kaljon Enerdži konglomeratu Internešnal Holding Ko (IHC) iz Abu Dabija za 490 miliona dolara. U transakciju je uključen i projekat solarne elektrane u Karapinaru, ali i još jedan u regiji Gazinatep, kao i elektrana na pogon vetra u Ankari.

Kaljon Enerdži razvio je elektranu kao deo zemljine Zone izvora obnovljive energije (YEKA), a inicijativa turske vlade jeste ta da se u svakoj regiji sa visokom koncentracijom stanovništva otvori bar jedan izvor obnovljive električne energije, bio on solarni ili na pogon vetra.

YEKA projekti služe se investicijama lokalnih investitora i/ili udruženja, kako bi proizveli opremu i izgradili ustanove velikih razmera za proizvodnju električne energije.

Ova ustanova razlikuje se od ostalih velikih solarnih parkova po tome što je finansirana od strane grupe investitora ili udruženja, a ne od strane jednog investitora.

Elektrana, čija je izgradnja počela početkom

In Turkey, at the beginning of May this year, the largest solar power plant in Europe built on one location, which is also one of the five largest such power plants in the world, was inaugurated.

Developed by Kalyon Energy, an affiliate of one of Türkiye's top conglomerates, Kalyon Holding, the solar plant in the central province of Konya boasts an installed capacity of 1,350 megawatts (MW).

The Kalyon Karapınar Solar Power Plant promises to help Türkiye curb its vast energy imports and back its drive to boost renewable energy production that has already been propelled by large-scale solar and wind power tenders.

More than 3.2 million solar panels at the facility are to generate 3 million kilowatt-hours of electricity annually, enough to provide power to 2 million people and prevent the use of \$450 million of fossil fuel equivalent resources.

The \$1 billion plant has already started producing electricity, will prevent 1.5 million tons of carbon emissions annually and increase the share of solar energy in Türkiye's total energy production by 20%.

Kalyon Holding, in August last year, agreed to sell a 50% stake in Kalyon Energy to the Abu

Dhabi conglomerate International Holding Co (IHC) for about \$490 million. The transaction included the solar power project in Karapınar, in addition to another one in the Gaziantep region and a wind power project in Ankara.

Kalyon Energy developed the plant as part of the country's Renewable Energy Resource Zone (YEKA), a government initiative to establish renewable facilities in areas with a high concentration of at least one renewable energy source, such as wind or solar power.

YEKA projects use investments from local investors and/or consortiums to manufacture equipment and construct large-scale electricity generation facilities.

The facility differs from others listed as large solar parks in that it is funded by a group of investors or consortiums rather than a single investor. The plant, whose installation was launched in early 2020, covers an area of 20 million square meters and is situated in an area with the highest solar exposure.

The solar panels in the facility come from Türkiye's first integrated solar ingot-wafer-module-cell production factory in Ankara, which was established by Kalyon Solar Energy Technologies Production Company and started production in August 2020.



2020. godine, proseže se na području od 20 miliona kvadratnih metara i smeštena je u regiji sa najvećom izloženošću sunčevoj energiji.

Specifična stvar vezana za same solarne panele, koji se koriste u ovom postrojenju, jeste da svi dolaze iz turske fabrike sa sedištem u Ankari, koja je otvorena avgusta 2020. godine od strane Kaljon kompanije za proizvodnju tehnologija za generisanje solarne energije.

Svečano otvorena od strane predsednika Erdogana avgusta 2020. godine, fabrika Kaljon solarnih tehnologija predstavlja prvi potpuno integrisani centar za proizvodnju solarnih panela pod jednim krovom koji objedinjuje sve faze u proizvodnji panela, uključujući i istraživanje i razvoj. Kanjonova godišnja proizvodnja od 1,000 MW povećana je sa inicijalnih 500 MW, a u planu je povećanje na više od 2,000 MW uz investiciju od 150 do 200 miliona dolara.

Poslednjih godina, YEKA projekti bili su krucijalni za rast obnovljive energije, kako u smislu tehnološkog razvoja, tako i u smislu

proizvodnje opreme za generisanje električne energije. Proizvodnja obnovljivih izvora u Turskoj ima udeo od preko 50 odsto u ukupnoj proizvodnji električne energije, koja je 7. aprila iznosila 104,488 MW.

Nakon hidroelektrana, koje proizvode 31,600 MW, vetrogeneratori su drugi najveći proizvođači obnovljive električne energije sa proizvodnjom od 11,490 MW. U istom periodu, solarne elektrane proizvele su 9,820 MW.

Očekuje se da po najmanje 1,000 MW solarne i energije vetra bude pridruženo portfoliju za obnovljive izvore Turske do kraja godine.

Prema podacima Međunarodne energetske agencije (IEA), za Tursku se prognozira rast od oko 64 odsto na polju proizvodnje obnovljivih izvora energije u vidu od 90 gigavata (GW) u narednih pet godina, a 75 odsto ove energije biće proizvedeno u solarnim i elektranama na pogon vetra. Ovaj rast će Tursku podići na četvrto mesto u Evropi i uvesti je među 10 najvećih tržišta obnovljive energije na svetu.



More than 3.2 million solar panels at the facility are to generate 3 million kilowatt-hours of electricity annually

3,2 miliona solarnih panela za cilj ima proizvodnju 3 miliona kilovat-časova struje godišnje



Inaugurated in August 2020 by Erdoğan, the Kalyon Solar Technologies Factory marks the first fully integrated solar panel production center to gather all stages of solar panel production, including research and development (R&D), under a single roof.

Kalyon PV's yearly 1,000 MW production capacity was increased from the initial 500 MW and is planned to be lifted to more than 2,000 MW through a \$150 million to \$200 million investment. In recent years, YEKA projects have been the main drivers of growth in renewable energy, both in terms of technology development, equipment manufacture and electricity generation.

Türkiye's current renewable capacity accounts for over half of the country's total

installed power capacity, which stood at 104,488 MW by April 7. After a hydropower capacity of around 31,600 MW, wind is the second-biggest renewable source of electricity at 11,490 MW. Solar power installations reached 9,820 MW in the same period.

At least 1,000 MW of wind and solar energy capacity each is expected to be added to the country's renewable portfolio in 2023.

According to the International Energy Agency (IEA), Türkiye is forecast to see around 64% growth in its renewable energy capacity to 90 gigawatts (GW) in the next five years, with almost 75% of this addition being solar and wind. The growth will help it rank fourth in Europe and among the 10 biggest renewable markets in the world.



Leto 2023. bilo je najtoplije ikada

Severna zemljina hemisfera je bila najviše pogođena ekstremnim vremenskim uslovima, sa katastrofalnim toplotnim talasima koji su zahvatili južnu Evropu, te južne delove SAD i Japan



Leto 2023. godine ostaće, na globalnom nivou, zabeleženo kao najtoplije do sada. Temperaturne razlike u odnosu na ranije godine bile su izuzetno velike, potvrdio je izveštaj servis Evropske unije Copernicus Climate Change.

Prosečna globalna temperatura u periodu od juna do avgusta dostigla je 16.77°C, što predstavlja porast od 0.66°C u odnosu na prosečnu temperaturu u periodu od 1990. do 2020. godine. Istovremeno, Evropa, koja se smatra najbrže zagrevajućim kontinentom na svetu, beleži temperaturu koja je 0.83°C iznad proseka,

sa srednjom vrednošću od oko 19.63°C. Leto 2023. godine postavlja nove standarde - jun, jul i avgust su globalno zabeležili najviše temperature ikada! Posebno se ističe jul kao najtopliji mesec u dosadašnjoj, zabeleženoj, istoriji, gde se više od 6.5 milijardi ljudi, što čini oko 81 odsto svetske populacije, suočavalo sa velikom vrućinom koja se povezuje sa klimatskim promenama. Severna hemisfera je bila najviše pogođena ovim ekstremnim vremenskim uslovima, sa katastrofalnim toplotnim talasima koji su zahvatili južnu Evropu, te južne delove SAD i Japan.

The Summer of 2023 Was the Hottest on Record



The summer of 2023 will remain, on a global level, the hottest ever recorded. Temperature differences compared to previous years were extremely large, confirmed the report of the European Union's Copernicus Climate Change service.

The average global temperature in the period from June to August reached 16.77°C, which represents an increase of 0.66°C compared to the average temperature in the period from 1990 to 2020. At the same time, Europe, which is considered the fastest warming continent in the world, records a temperature that is 0.83°C above

average, with a mean value of around 19.63°C.

The summer of 2023 set new standards - June, July and August globally recorded the highest temperatures ever! In particular, July stands out as the hottest month in recorded history, where more than 6.5 billion people, which is about 81 percent of the world's population, faced extreme heat associated with climate change. The northern hemisphere was most affected by these extreme weather conditions, with catastrophic heat waves affecting southern Europe, the southern parts of the US and Japan.



UŽARENI TEKSAS KAO OPOMENA

Studija organizacije Climate Central ukazuje na to da je antropogeni klimatski uticaj doveo do toga da vrućina, koja je zadesila Teksas i druge južne države SAD, postala „barem“ pet puta nepodnošljiva od izmerenih vrednosti, što znači da je subjektivni osećaj bio daleko užareni od termometra. U pojedinim delovima Teksasa bilo je toliko vrelo da su ljudi imali potrebu da uopšte ne izlaze izvan klimatizovanih prostorija ili debelih hladovina. Osim što je uticala na ljude, ekstremna toplota imala je ozbiljan uticaj i na morske ekosisteme, što se ogledalo u rekordno visokim temperaturama mora i okeana. Avgust je, na primer, zabeležio najviše mesečne prosečne temperature površine mora u istoriji, uz niz dnevnih rekordnih temperatura od 31. jula do 31. avgusta.

Florida je doživela temperature mora koje su premašile 38°C, što predstavlja ozbiljnu pretnju morskom životu i ekosistemima. S druge strane, Sredozemno more je zabeležilo srednju temperaturu površine od 28.7°C, što je najviša zabeležena vrednost još od 1982. godine.

OBORENI SVI CRNI REKORDI

Samanta Bardžis, zamenica direktora Copernicus Climate Change Service-a, istakla je ozbiljnost ovih saznanja i naglasila da će svet nastaviti da obara nove rekorde u klimatskim promenama i da će se suočavati sa sve češćim i intenzivnijim ekstremnim vremenskim uslovima, sve dok se emisija gasova sa efektom staklene bašte ne smanji.

Iako su ovi „užareni“ trendovi zabrinjavajuće jasni, svet je daleko od postizanja ciljeva nulte emisije gasova, sa projektovanim vrhuncem emisije ugljen-dioksida 2025. godine. Još je alarmantnije što su se atmosferske koncentracije ugljen-dioksida popele na rekordne nivoe ovog leta, tako da su



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BURNING TEXAS AS A WARNING

A study by the organization Climate Central even indicates that anthropogenic climate influence has caused the heat, which hit Texas and other southern US states, to become „at least“ five times more unbearable than the measured values, meaning that the subjective feeling was far hotter than thermometer showed. In some parts of Texas, it was so hot that people did not feel the need to go outside air-conditioned rooms or thick shades at all.

In addition to affecting people, the extreme heat also had a serious impact on marine ecosystems, which was reflected in record high sea and ocean temperatures. August, for example, saw the highest monthly average sea surface temperatures on record, with a series of daily record temperatures from July 31 to August 31.

Florida has experienced sea temperatures exceeding 38°C, posing a serious threat to marine life and ecosystems. On the other hand, the Mediterranean Sea recorded a mean surface temperature of 28.7°C, which has been the highest recorded value since 1982.

ALL WORST RECORDS BROKEN

Samantha Burgis, Deputy Director of the Copernicus Climate Change Service, has emphasized the seriousness of these findings and stressed that the world will continue to break new records in climate change and will face increasingly frequent and intense extreme weather conditions, as long as the emission of gases from the greenhouse effect does not reduce.

While these „hot“ trends are worryingly clear, the world is a long way from reaching zero-emission targets, with projected peak of carbon dioxide emissions in 2025. Even more alarmingly, atmospheric concentrations of carbon dioxide have risen to record levels this summer, so that they are now twice the level they were before the start of the Industrial Revolution in the 19th century.

A study published in June suggested that as many as 90 percent of the 35 most polluting countries, responsible for 82 percent of global greenhouse gas emissions in 2019, are „likely“ to fall short of their net zero emissions targets.

RECORD-BREAKING TEMPERATURES FOLLOW

According to a report of the World Meteorological Organization (WMO) released in May, there is a 98 percent chance that at least one of the next five years





sada dvostruko više od nivoa pre početka Industrijske revolucije u 19. veku. Studija objavljena u junu sugeriše da čak 90 odsto od 35 najzagađenijih zemalja, odgovornih za 82 odsto globalnih emisija gasova sa efektom staklene bašte u 2019. godini, „verovatno“ neće dostići svoje ciljeve neto nula emisije štetnih gasova.

TOPLOTNI ŠOKOVI NAS TEK OČEKUJU

Prema izveštaju Svetske meteorološke organizacije (WMO) objavljenom u maju, postoji 98 odsto šansi da će bar jedna od narednih pet godina postati najtoplija ikada zabeležena, sa 66 odsto verovatnoće da će privremeno premašiti prag od 1.5°C iznad proseka za period od 1850. do 1900. godine, čime će se prekoračiti limiti utvrđeni Pariskim sporazumom. Hitne mere u borbi protiv klimatskih promena su ključne kako bi se sprečila trajna prekoračenja ovih ključnih temperaturnih pragova, kako je istakao i generalni sekretar UN-a Antonio Guterš.

U bliskoj budućnosti, svet se suočava sa ozbiljnom pretnjom od promenjive klime, pri čemu leto 2023. godine može da posluži kao ozbiljan podsetnik na hitnu potrebu za suočavanjem sa posledicama globalnog zagrevanja i njihovim ublažavanjem.



will become the warmest on record, with a 66 percent chance that it will temporarily exceed the threshold of 1.5°C above the average for the period from 1850 to 1900, which will exceed the limits established by the Paris Agreement.

Urgent measures in the fight against climate change are crucial in order to prevent permanent exceedance of these key temperature thresholds, as UN Secretary General Antonio Guterres pointed out.

In the near future, the world will face a serious threat from a changing climate, with the summer of 2023 serving as a serious reminder of the urgent need to address and mitigate the consequences of global warming.



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