

Briefing on EU priority project Turnu Măgurele - Nikopol Hydraulic Structures Assembly (TMNHSA) threatening Lower Danube ecosystem

Summary

This document addresses several serious concerns regarding the proposed Turnu Măgurele - Nikopol Hydraulic Structures Assembly (TMNHSA), a project that threatens the ecological integrity of the Lower Danube, a region of unparalleled biodiversity. The project, if approved, would not only devastate critical habitats, leading to the potential extinction of species such as the Danube sturgeon, but also impose unjustified economic costs on local communities, disrupt existing investments, and violate several EU environmental directives. We strongly urge the European Parliament and the Council to oppose the inclusion of TMNHSA in the CB RES list and reject any financial support under the CEF Energy Programme.

1. Overview of the Turnu Măgurele - Nikopol Hydraulic Structures Assembly (TMNHSA) project

On 24 July 2024, the European Commission announced that three additional projects had obtained the status required to be included in the List of Renewable Energy Cross-border Projects (CB RES list) under the [Connecting Europe Facility for Energy](#) (CEF Energy). Among these is a proposed hydropower [hydropower investment](#) downstream of the Romanian town of Turnu Măgurele and the Bulgarian town of Nikopol on the undammed Lower Danube. **The project envisions the construction of twin run-of-the-river hydropower plants on the Danube, connected to their respective national transmission grids.**

It should be noted that the project concept stems from the 1980ies and has since then been hotly debated because of its anticipated high costs and negative impacts.

The European Parliament and the Council have the possibility to express their views **until 24 September 2024**. If neither the European Parliament (with an absolute majority) nor the Council objects, the official CB RES status will make the project eligible for financial support for studies and works under the CEF Energy Programme. This status offers the project higher visibility, increased investor confidence, and stronger support from Member States.

The [project](#) has the following known characteristics:

- **Location** between rkm 863 (Iron Gates II dam) on the Danube and rkm 581 (the planned hydrotechnical node / dam).
- **Retention level** at 29.50 or 30.75 m above sea level.
- **Gross head:** 9.1 m.

- **Total volume** (at highest operating water level): 4.5×10^9 m³.
- **Length** of the reservoir: 282 km (265 km along the Romanian-Bulgarian sector, 17 km along the Romanian-Serbian sector).
- **Two run-of-river hydroelectric plants**, each with 12 turbines (420 MW per plant, 840 MW in total), one on each bank (Romania and Bulgaria).
- **Estimated annual energy production** of approximately 4400 TWh/a.
- **Two locks for navigation** together with related navigation constructions, one on each bank.
- **A speed lock and two fish ladders** (although Romanian and Bulgarian documentation differ on this aspect);
- **A two-level bridge over the dam** (also on this aspect, Romanian and Bulgarian documentation are not aligned).

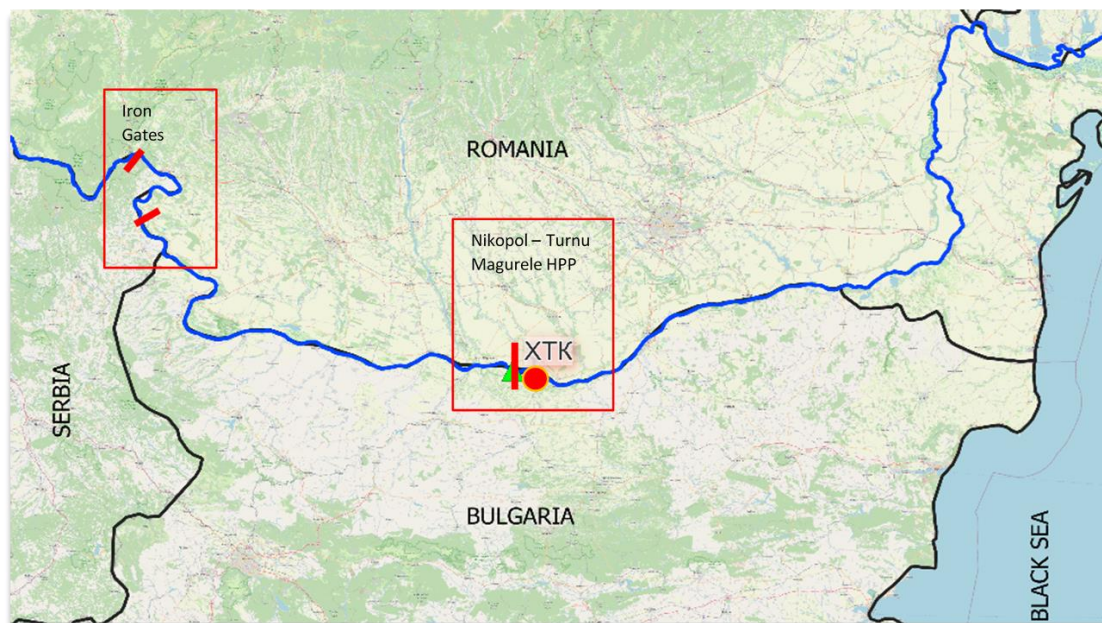


Figure 1. Planned hydropower plant at Nikopol – Turnu – Magurele, with red dot is marked location of Belene Nuclear Power Plant

2. Anticipated negative impacts

The Danube, crossing ten countries and draining an area of approximately 817,000 km² (10% of Europe's surface and the territory of 18 countries), is the most international river in the world. Spanning 2,857 km it is Europe's second-longest river and the longest within the European Union. With a length of 863 km, the Lower Danube is among the EU's longest unobstructed river sections, This allows long-distance migratory fish such as shad and sturgeons to migrate from the Black Sea upstream to their spawning sites.

The morphology and hydrology of the Lower Danube have already been severely altered by the construction of the Iron Gates I and II hydropower dams, and a new dam, much further downstream in the lowland area, would represent a significant additional pressure not only on the river itself but also on the Danube Floodplain.

In addition, the Lower Danube area is already subject to multiple uses such as navigation, irrigation, sand mining, and commercial fishing while having to meet other societal needs like conservation, recreation, support of flood and drought resilience, regulating climate impacts, etc. The planned TMNHSA project is likely to exacerbate conflicts among water users.

3.1. Risks to economic assets

The proposed hydropower project **threatens to submerge ports and harbours** in the 280 km inundation area in Bulgaria and Romania, making many of these locations unusable due to geographic constraints. The resulting economic disruption would be significant, e.g. investments in designing navigation infrastructure projects will become obsolete.

Additionally, the project is likely to exacerbate sediment deficits and river bed erosion stemming from the Iron Gates I and II hydropower plants. Furthermore, the project is expected to **destabilise the Bulgarian bank of the Danube River** and **activate landslides**. These effects pose threats to critical infrastructure, settlements and arable land. Figure 6 presents a map of landslide hazards in Bulgaria as of 2024. The map clearly shows several high-risk landslide-prone areas along the Danube between Vidin and Belene. It should be noted that the landslide and collapse processes are highly dependent on the water head, which will inevitably increase when the water level reaches 29.50 m (the highest operating water level of the Dam).



Figure 6 Landslide hazard map of Bulgaria (GIS MRRD)

The maintenance of a high groundwater head year-round at 1 to 8 metres above the natural state is expected to lead to soil salinisation, adversely affecting **agriculture**.

Moreover, over 100 cities and villages¹ are likely to face flooding risks of houses, farmland, and fish ponds, requiring potentially **significant resettlement efforts for thousands of citizens**. The project foresees additional dikes and pumping stations, but these would not protect the houses, permanently below the water level of the reservoir. This is why several neighbourhoods of the Bulgarian town of Nikopol closest to the Danube were planned for resettlement when the project was proposed in the 70s. Later, with the approval of the [Spatial Plan of Nikopol](#) in 2018, all the houses were legalised.

Other impacts are likely and need to be further investigated. These include a drop in commercial fisheries, costly risk mitigation measures for the nuclear power plants Kozlodui *and* Cernavoda, and reduced energy production of Iron Gates II hydropower plants (one scientific paper estimating a loss of 480 GWh/atha), as well as lowered climate resilience of human communities along the river's shores, which will also translate into costs over time. For example, it is anticipated that river discharge in southern Romania may decrease by up to 30% in the coming years. This reduction, particularly during summer droughts, could increase conflicts among stakeholders engaged in e.g. energy production, agriculture, aquaculture, nature tourism downstream of the dam..

3.2 Threats to protected species

The Danube is unique within the EU for maintaining reproducing sturgeon populations. Sadly, two of the six Danube sturgeon species have recently become extinct due to human pressures. The four remaining sturgeon species are protected under the EU Habitats Directive (92/43/EEC) and are considered at high risk of extinction by the International Union for Conservation of Nature (IUCN).

The area affected by the proposed project provides essential habitats for numerous other threatened fish species, including *Alosa immaculata*, *Aspius aspius*, *Cobitis taenia*, *Eudontomyzon mariae*, *Gymnocephalus baloni*, *Gymnocephalus schraetzer*, *Misgurnus fossilis*, *Pelecus cultratus*, *Rhodeus amarus*, *Romanogobio vladkovi*, *Zingel streber* and *Zingel zingel*.

Additionally, the project area supports nesting conditions for the White-tailed Eagle (*Haliaeetus albicilla*), other birds of prey and Black Stork (*Ciconia nigra*), herons, egrets, cormorants.

¹ **In Bulgaria, 50 cities and villages:** Nikopol, Zhernov, Muselievo, Novacene, Debovo, Cherkovitsa, Somovit, Dolni Vit, Milkovitsa, Shiyakovo, Komarevo, Kreta, Gulyantsi, Brest, Gigen, Dabovan, Zagrazhden, Iskar, Krushovene, Baykal, Dolni Vadin, Gorni Vadin, Ostrov, Leskovets, Oryahovo, Saraevo, Mizia, Glozhene, Harlets, Kozloduy, Dolni Tsibar, Gorni Tsibar, Ignatovo, Stanevo, Dolno Linevo, Lom, Orsoya, Slivata, Dobri Dol, Archar, Tsar Simeonovo, Botevo, Dunavtsi, Slana Bara, Vidin, Pokrayna, Kutovo, Antimovo, Slanotran, Koshava.

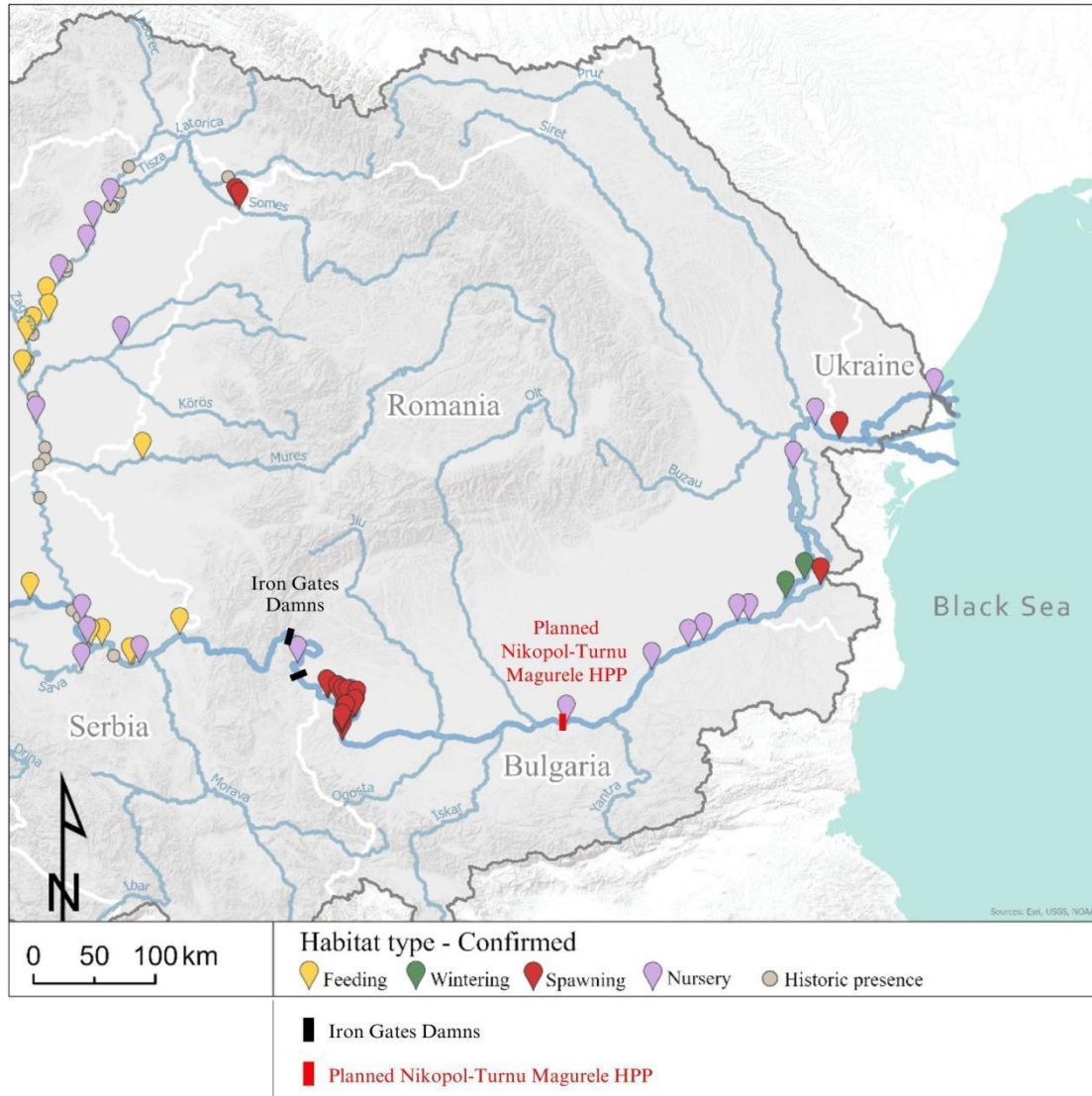
In Romania, 54 cities and villages: Navodarti, Seaca, Traian, Poiana, Ciuperceni, Turnu Magurele, Islaz, Lita, Segarcea-Vale, Olteanca, Lunca, Pleasov, Giuvarasti, Moldoveni, Ursa, Garcov, Corabia, Orlea, Orlea Noua, Satu Nou, Grojdibodu, Hotaru, Potelu, Ianca, Dabuleni, Calarasi, Sarata, Bechet, Ostroveni, Zaval, Gighera, Nedeia, Macesu de Jos, Sapata, Carna, Goicea, Brandusa, Plosca, Bistret, Bistretu Nou, Catane, Negoii, Rastu Nou, Rast, Seaca de Camp, Piscu Nou, Piscu Vechi, Ghidici, Pisculet, Desa, Ciupercenii Vechi, Calafat, Basarabi, Golenti.

Sandbanks provide nesting habitat for Little Terns, Common Terns, Oystercatchers, Little Ringed Plover, and several other rare bird species.

Populations of rare invertebrates such as Thick Shelled River Mussel (*Unio crassus*) and Striped Nerite (*Theodoxus transversalis*) will also be negatively impacted by this development.

The proposed project would create a barrier to the migration of sturgeons and other fish species, critically impacting their ability to reach spawning sites. This would severely threaten the survival of these species, despite ongoing conservation efforts supported by substantial public funding. Today, sturgeons benefit from 863 river kilometres of unobstructed river from the Black Sea to the first obstacle on the Danube, the Iron Gate II dams. The last known spawning places are just below the Iron Gates (see map below). The planned new hydropower plant would make these spawning places inaccessible and cut the available migration section from the Black Sea by half. This would have dramatic effects on these species, which are already on the brink of extinction.

A [Pan-European Action Plan for Sturgeons](#), adopted as a recommendation of the Standing Committee to the Bern Convention and endorsed for implementation under the Habitats Directive (Directive 92/43/EEC), clearly demands that **no further migration obstacle shall be built on the few remaining sturgeon migration routes in European rivers**. Sturgeons are the flagship species of the ICPDR and EUSDR Priority Area(s): PA 4 Water Quality, PA 6 Biodiversity, Landscapes and Air & Soil Quality also prioritise work for sturgeon and other migratory fish. Several conservation initiatives funded by EU and national public money, as well as many private donors are ongoing in the Danube region. A new hydropower plant would render all these efforts useless and a waste of taxpayers' money.



The map shows the only known confirmed sturgeon habitats – depicted as red icons and place of first existing migration barriers (Iron Gates) and the location of the new proposed hydropower plant – which would cut access from the Black Sea to the spawning sites. Map adapted from EC Service Contract No. 09.0201/2022/885601/SER/D.3.

The project’s fish passage solutions are unlikely to mitigate these impacts effectively, as the reservoir will submerge the existing spawning sites, and the required habitat qualities (water level, flow velocity, substrate) will become heavily modified and thus lose their functionality for the species. In addition, fish passages vary in efficiency, with average passage rates for state-of-the-art fishways being ~70%. In addition, safe downstream passage at the dam for large adults after they have spawned has to be addressed, as well as migration of the young-of-the-year through the impoundment, which can lead to additional losses and failures in recruitment due to habitat changes, increased predation and mortalities through traumas suffered at the downstream dam passage.

Regardless of any technical solutions that could be implemented, the destruction and modification of the existing spawning sites will severely impact the populations. Therefore, a precautionary approach should prevail otherwise the extinction risk will continue to rise.

Threats to other migratory fish species of value for fisheries and conservation importance will be considerable and require careful impact assessments. For example, the Pontic shad is still subject to professional Danube fisheries. Historically, it migrated up to 1,600 km to spawning grounds up the Danube river but today, the Iron Gates dams block upstream migration. and the remaining available spawning habitats are located precisely at the river section where the dam would be built and upstream of it, between river kilometres 570 and 650.

3.3. Threat to natural habitats, including those of EU importance

The Romanian Danube sector includes 34 Natura 2000 protected areas, 14 Sites of Community Importance (SCI) and 20 Special Protection Areas (SPA). The construction area of the hydropower plant directly intersects with the protected areas ROSCI0044 Corabia-Turnu Măgurele and ROSPA0102 Suhaia. The broader scale of the project, involving river regulation works along larger sections of the Danube, would likely impact other Natura 2000 sites on both the Romanian and Bulgarian sides of the Danube. In addition, there are eight nature reserves of national interest, including a natural park (Iron Gates Natural Park with Ramsar site status, Balta Nera-Dunăre, Gura Văii-Vârciorova, Dealul Varanic, Cazanele Mari and Cazanele Mici, Șvinița fossiliferous site, Cracul Crusii, Fața Virului) and seven nature reserves of international interest, in particular Ramsar sites (Porțile de Fier National Park, Bistreț, Olt-Danube Confluence, Suhaia, Blahnița, Calafat-Ciuperceni-Danube and Jiu-Danube Confluence). According to case law of the European Court of Justice (C-142/16), even if a project is located 600 kilometres away from a Natura 2000 site, it can still affect the protected area and, therefore, be considered to violate the EU Nature Directives.

On the Bulgarian side, twelve protected natural areas of national interest, including five Nature Reserves and a Natural Park, are at risk. They overlap with 15 Natura 2000 sites protected under the EU Habitats Directive. Among them, Persina Nature Park and the largest Bulgarian RAMSAR site, “Belene Islands Complex”, where from 2002 to 2008, the World Bank project “Wetland restoration and pollution reduction project” restored the first Bulgarian Danube floodplain wetland with a budget of 13 million USD. The dam will be in the middle of the Persina Nature Park, and the RAMSAR site and a large part of both will be submerged. Other protected areas that will be submerged include the Ibisha managed reserve, Malak Boril protected area, and Orsoya Fishponds protected area.

The proposed reservoir will be more than 282 kilometres long and will submerge most of the natural habitats along the Danube and radically alter the ecosystem. The new hydropower plant would also severely change the downstream flow regime. The anticipated impacts on protected habitats along the Lower Danube and in the Danube Delta will range from altered water level fluctuations, temperature changes and, most importantly, a severe impact on the sediment balance.

Where the Danube River transforms into the Danube Delta, it becomes Europe's largest natural wetland, home to extraordinary biodiversity, featuring 30 different types of ecosystems, over 10,000 species of flora and fauna, 5,000 km² of marshes, canals, reed islets, and lakes. It is the only delta of a river entirely nestled within a UNESCO biosphere reserve while also being a UNESCO World Heritage site, a Ramsar site, and part of the Natura 2000 network, including ROSPA0021, ROSCI0037, and ROSPA0032. Any changes to the Danube's flow or sediment balance would have serious consequences for this unique area.

All 55 Danube islands in the 280 km section mapped under the EU-funded WILDislands Project will be severely impacted or destroyed by the proposed project; 28 are category A - wild islands. These islands are home to many important ecosystems and their protection has been recently recognised through various international commitments, including as WILDisland RAMSAR Regional Initiative (RRI) at the 63rd meeting of the Standing Committee of the Convention on Wetlands, the first river-based RRI in Europe. At the same time, WILDisland RRI was officially awarded as an EU Strategy for the Danube Region (EUSDR) flagship of Priority Area 6 in 2024. This planned hydropower plant is jeopardising these commitments of all contracting parties of the RAMSAR Convention and EUSDR parties to improve efforts for wetland conservation in the Danube River Basin.

In the area of the reservoir, the seasonal fluctuations in the water levels of the Danube will be stopped, leading to the destruction of habitat types on the river banks and islands:

- 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*;
- 3270 Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation

Sand dunes will be submerged or degraded by permanent high water levels (including behind banks) and invasive species like *Amorpha fruticosa* will occupy the banks of the new reservoir:

- 2340 * Pannonic inland dunes (**priority habitat**)

Other habitats will be directly or indirectly significantly impacted:

- 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels;
- 6440 Alluvial meadows of river valleys of the *Cnidion dubii*;
- 92D0 Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*).

Rare habitat types that will be impacted on Danube islands are:

- 91E0 * Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (**priority habitat**);
- 91F0 Riparian mixed forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or *Fraxinus angustifolia*, along the great rivers (*Ulmion minoris*)
- 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* — type vegetation

3. Policy coherence

3.1 Non-compliance with the Water Framework Directive

The proposed Danube hydropower project raises significant concerns regarding its compliance with the objectives of the EU [Water Framework Directive](#) (WFD) (2000/60/EC). As a foundational piece of European environmental legislation, the WFD aims to protect and enhance the quality of water bodies across the EU, aiming to achieve “good ecological status” (GES) for all surface and groundwater bodies, or, for Heavily Modified Water Bodies (HMWB), such as this river section², “good ecological potential” (GEP) which requires that all feasible mitigation measures are implemented to minimise ecological impact. The construction of new hydropower plants and related infrastructure such as dams and a reservoir, on this already heavily modified section of the Danube will introduce additional pressures, such as altered flow regimes, disrupted sediment transport, and further degradation of habitats.

The project plans to introduce substantial new structural modifications to the river's hydromorphology, including dams and reservoirs, increasing existing hydromorphological pressures on the Danube, which are already significant. Such changes will further impair the river's natural processes, like sediment transportation and water flow variability, which are crucial for maintaining ecological health. It will lead to further deterioration of water quality by increasing nutrient concentrations in the reservoir, leading to reduced dissolved oxygen levels, and promoting eutrophication and likely harmful algal blooms. Furthermore, the accumulation of contaminants within the reservoir, caused by the disruption of sediment transportation will further lead to the degradation of the chemical status of the water and pose risks to both aquatic ecosystems and human health. Such impacts will hinder the efforts to maintain the water quality standards required under the WFD.

Non-compliance with the WFD may expose Romania and Bulgaria to significant **financial and legal risks** as consequence of infringement procedures. Additionally, any failure to meet WFD obligations could damage the credibility and reputation of both countries in terms of their commitment to sustainable water management and environmental protection.

3.2 Non-alignment with ICPDR Danube River Basin Management Plan and Ministerial Declaration

The ICPDR [Danube River Basin Management Plan](#) (DRBMP) includes as one focus for measures establishing/improving fish migration in the Danube River and the connected lowland rivers. In order to enable a sound estimation of where to target measures most effectively at the basin-wide scale, an ecological prioritisation of measures to restore river and habitat continuity in the basin was carried out for the DRBMP 2009. Countries have since then planned and implemented various measures to restore connectivity at least partially with migration aids. This hydropower project would thwart these efforts.

Also, the project has not been announced as a Future Infrastructure Project to ICPDR Parties as required.

² https://www.icpdr.org/sites/default/files/nodes/documents/dr bmp_update_2021_final_annexes_1-21.pdf, pag 174

3.3. Inconsistency with EU-funded conservation projects

In the ICPDR prioritisation of measures process, the Iron Gate dams were identified as of highest priority and accordingly, preparations for the feasibility and preliminary designs of fish passages at the Iron Gate dams were made, thanks to **substantial investment of European funding (We Pass 1 and We Pass 2)**.³ A new hydropower plant below the Iron Gates would make these investments useless and the accumulated loss of fish that would need to migrate up- and downstream through such large infrastructure systems like the new project plus the Iron Gates would be most likely too high to sustain at currently low population levels.

Many other conservation initiatives financed by public money from EU and national sources or private donors would be made meaningless, these include several Interreg Danube Region Programme and LIFE projects for sturgeon conservation, initiatives like the EUSDR **Danube Sturgeon Task Force**⁴ or Danube parks, recent funding through the EU Mission "**Restore our Ocean and Waters**"⁵ with its Danube lighthouse and the latest focus on migratory fish species. Last but not least, the multi-million investments into the **LIFE-Boat 4 Sturgeon**,⁶ which aims to build ex-situ breeding stocks and release millions of sturgeons in the Danube will not achieve lasting success if spawning grounds are destructed and not accessible.

3.4 Breach of RAMSAR Convention on Wetlands

The Turnu Măgurele-Nikopol Hydraulic Structures Assembly project is located on the Romanian side within the RAMSAR site "Confluence of the Olt with the Danube", a wetland of international importance due to its rich biodiversity. It covers an area of 46 hectares and is essential for numerous species, including 33 bird species protected at the EU level. The construction of additional hydraulic structures would disrupt these habitats, leading to the potential decline of species populations and the loss of critical breeding and feeding grounds. Romania ratified the RAMSAR Convention through Law 5/1991, which aims to protect such areas due to their global ecological significance, and the disruption of these habitats is contrary to the Convention's principles.

³ <https://www.icpdr.org/tasks-topics/tasks/river-basin-management/sturgeon-conservation/we-pass-facilitating-fish-migration>
<https://www.cdmsmith.com/en-EU/Client-Solutions/Projects/WePass2>

⁴ <https://dstf.info/>

⁵ https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters_en

⁶ <https://lb4sturgeon.eu/>

3.5 Disrespect for Habitats and Birds Directives and the Nature Restoration Law

As outlined in chapters 3.1. and 3.2, the project will prevent a long list of habitats and species covered by the EU Habitats and Bird Directives from reaching or maintaining good conservation status as required.

The hydropower project is in obvious contradiction to the objectives of the Nature Restoration Law especially article 9 in which aims at "restoring at least 25 000 km of rivers into free-flowing rivers in the Union by 2030".

3.6 Conflict with the United Nations Convention on Biological Diversity⁷;

The proposed TMNHSA project poses a significant conflict with the obligations and objectives set forth by the United Nations Convention on Biological Diversity (CBD). The CBD, ratified by both Romania and Bulgaria, is a key international treaty aimed at conserving biological diversity, ensuring the sustainable use of its components, and promoting the fair and equitable sharing of benefits arising from genetic resources.

Firstly, as detailed above, the project would lead to the destruction and fragmentation of critical habitats, threatening the survival of numerous species, including those already identified as endangered or vulnerable. This directly contravenes Article 8 of the CBD, which obliges contracting parties to establish a system of protected areas and maintain biodiversity within their jurisdiction, especially for areas requiring urgent conservation efforts. The disruption of the Danube's natural flow and sediment transport, alongside the alteration of habitats vital for species like the Danube sturgeon, undermines the principles of in-situ conservation as outlined by the CBD.

Moreover, the project undermines efforts to reduce the loss rate of all natural habitats. The large-scale environmental alterations proposed by the TMNHSA project would likely accelerate habitat loss rather than contribute to its reduction, jeopardising biodiversity in the Lower Danube region.

Additionally, the project fails to align with the Ecosystem Approach promoted by the CBD, which emphasises the need to manage natural resources in ways that do not compromise the ecosystem services they provide. By prioritising hydropower production over the ecological health of the Lower Danube, the project disregards the interconnectedness of ecosystems and the importance of maintaining their resilience.

4. Is the project the best available option?

4.1. Economic and governance drawbacks of the project

In 1974, the estimated cost of the project (only the implementation of the Bulgarian section) was over 750 million EUR (roughly 2.5 billion EUR inflation-adjusted in 2024). Approximately half of this amount was earmarked for the construction of protective dykes, injection curtains and drainage structures.

⁷ <https://www.un.org/en/observances/biological-diversity-day/convention>

A 1986 report by Academician Angel Balevsky, Chairman of the Bulgarian Academy of Sciences (BAS), described the difficulties in implementing the project. The main finding of the report was that the project was inefficient and costly and the projected payback period for the investment was 65 years. The high costs include those for hundreds of km of new dikes, the maintenance of those, and dozens of pumping stations pumping water behind the dikes and using huge amounts of energy.

Compared to wind and solar, electricity from hydropower is more expensive. According to the International Renewable Energy Agency's latest [report](#) on renewable power generation costs, the weighted average levelised cost of electricity between 2010-2022 for new large (>10MW) hydropower plants in Europe was 0,08 USD/kWh, but with high variance: the Levelised cost of electricity (LCOE) of projects with hundred megawatts capacity tends to be higher, between 0,1-0,15 USD/kWh. Given the fact that the [corruption percentage index](#) of Romania and Bulgaria is among the worst three in EU-27, and large infrastructure projects are the hotbed of corruption, it is likely that the LCOE would be even higher. In contrast, the LCOE of onshore wind in Europe in 2022 was 0,045 USD/kWh, around half the value of hydropower,, while for utility-scale solar between 0,05-1 USD/kWh.

As for hydropower, the trend is increasing, while solar and wind are still significantly decreasing; therefore in the future the difference will presumably be even higher. While hydropower projects always cause significant negative impacts on nature, with careful selection of sites, wind and solar projects can be placed in low- or no-risk areas. This process is ongoing at the Member States-level with the selection of acceleration areas, according to Article 15c of the Renewable Energy Directive. As a consequence, from eight projects included so far in the CB RES List, there is only one hydropower project, namely Turnu Magurele – Nikopol Hydraulic Structures Assembly; all the other seven projects are for energy production from more environmentally friendly and renewable sources.⁸

4.2 Climate risks threatening the viability of investments

As the run-of-the-river technology is also weather-dependent, it cannot balance the intermittent production of wind and solar (unlike pumped-hydro storage, which, with careful planning, can be built and operated with lower impact on nature). As on the river Danube the frequency and intensity of low water level is increasing, and with the acceleration of climate change it is expected to be increased further, the planned capacity factor will likely be lower compared to what is in the original plan.

The Hidroelectrica's operating profit dropped by 34% year-on-year to 3.027 billion Romanian Lei in the first half of the 2024, while its earnings before interest, taxes, depreciation, and amortisation (EBITDA- Earnings Before Interest, Taxes, Depreciation, and Amortisation) registered a 30% decline from the prior-year period. Net electricity production fell by an annual 22% to 8.293 TWh in January-June 2024, of which the output from hydropower accounted for 8.14 TWh after a 22% decrease, mainly due to the reduction of electricity production (as it overlapped a dry interval, “**the**

⁸ https://cinea.ec.europa.eu/news-events/news/cef-energy-three-new-projects-obtain-status-join-cb-res-list-2024-07-24_en:

hydrological conditions limiting the production capacity of the Company”), the quantity of electricity sold, as well as the decrease in electricity selling prices, according to Hidroelectrica’s statements from a financial report filed with the Bucharest Stock Exchange, BVB⁹.

The availability of water resources in Romania is approximately half of the EU average and is very close to the water stress threshold. In 2022, Romania faced one of the most severe droughts ever recorded, which disrupted water reserves in 220 localities, reduced energy production by a third (from hydraulic energy) and put other energy sources at risk (nuclear), decreased agricultural production by at least a quarter, increased forest fires sevenfold and caused navigation restrictions on the Danube.

"With this trend expected to continue, pressure on water resources will continue to increase, increasing competition for water between agriculture, urban users and energy production," mentioned the latest World Bank Country Report for Romania regarding Climate and Development¹⁰.

The net hydropower production recorded a decrease of approximately 22% in the first half of 2024, caused in particular by the hydrological conditions in the second quarter of the year, when the average value of the Danube flow (5,585 mc/s) recorded a decrease of approximately 25% compared to the similar period of 2023 (7,491 mc/s)¹¹.

4.3. Better alternatives

It is crucial to recognise that significantly better environmental options are available for achieving energy without compromising the Lower Danube’s ecological health. Renewable energy sources such as solar and wind offer viable alternatives that do not pose the same level of environmental risk and do not impact critical water bodies. Given these alternatives, the justification for derogation based on national energy security is weak. The WFD allows derogations only if no better options exist and all mitigation measures are in place. With less harmful alternatives available and significant risks involved, the case for derogation is not justified. It is essential to uphold the principle of non-deterioration of water bodies and ensure that the project does not undermine WFD’s objectives.

5. Can the project be removed from the list of EU priority projects?

The adoption procedure is a [delegated act](#) according to the [EU CEF Regulation 2021/1153](#). According to Article 26.6 of the Regulation, the Delegated Act will *"enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period*

⁹ https://bvb.ro/infocont/infocont24/H2O_20240813133753_H2O-RO-Comunicat-rezultate-S1-2024-BVB.pdf

¹⁰ <https://www.worldbank.org/ro/country/romania/publication/country-climate-and-development-report-for-romania>

¹¹ <https://www.agerpres.ro/economic-intern/2024/08/13/hidroelectrica-a-afisat-un-profit-net-in-scadere-cu-32-dupa-primele-sase-luni-ale-anului--1341025>

of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council."

The procedure is "silent", meaning that the delegated act is considered adopted if the Parliament or Council do not object. To object, the Council needs to act by qualified majority and the European Parliament by absolute majority of its members.

The two institutions have **until 24 September 2024** to formulate an objection. The project is automatically adopted if the Commission does not receive any objection.

6. Conclusions

While the proposed Turnu Măgurele - Nikopol Hydraulic Structures Assembly project may offer certain energy production benefits, the potential environmental and socio-economic costs are profound and thus the cost-benefit ratio is questionable. The project appears to be in conflict with a range of EU policies. Given the current and predicted climate change impacts, it is critical to ensure that the transition to 100% renewable energy will not happen at the expense of communities' livelihoods, lowering climate resilience and biodiversity loss. We urge the European Parliament and the Council to consider these risks carefully and to explore alternative, more sustainable solutions to meet the region's energy needs. **We therefore ask the European Parliament and Council to object to the inclusion of the proposed Turnu Măgurele - Nikopol Hydraulic Structures Assembly project in this List of Renewable Energy Cross-border Projects (CB RES list).**

We hope that this briefing will assist in informing a balanced and well-considered decision that reflects the long-term interests of both the environment and the communities depending on the Lower Danube.

We remain at your disposal for further discussion and are ready to provide additional information or clarifications as needed.

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