Complete dossier — The Danube

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Chapter 1. Purpose and method of the dossier

This working dossier brings together, in a single document, a picture of the 2026 hydrological crisis in the Danube basin, a consolidated chapter devoted to Hungary, presented as a complete case study for the basin, and a reasoned evaluation of the chances of success of an emergency Danube-wide action for each of the ten countries crossed by the river. This revision gathers into a single chapter, Chapter 5, all the elements previously scattered across the dossier concerning Hungary: the emergency measures taken at the Paks power plant, the Dunai Korona local complementary currency project, Hungary's role in transnational governance, and the reasoned evaluation specific to it. The other chapters of the dossier now refer back to Chapter 5 rather than repeating the same material, so that Hungary serves as a structured, reusable reference model for a future chapter devoted to another country in the basin.

The data gathered here are current as of 15 August 2026 and must be verified before any official use. This dossier remains a personal working tool, compiled as an individual exploration, and does not represent the official position of any of the organisations, administrations or governments it mentions. The numerical chance-of-success estimates presented in Chapter 9 are reasoned orders of magnitude, not certified statistical forecasts.

Chapter 2. Course of the Danube

The Danube is the second-longest river in Europe, at approximately 2,850 to 2,860 kilometres. It rises in Germany, in the Black Forest, at the confluence of the Breg and the Brigach at Donaueschingen. It flows through or borders ten countries: Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Bulgaria, Romania, Moldova and Ukraine. Four capital cities sit on its banks: Vienna, Bratislava, Budapest and Belgrade. It empties into the Black Sea through the Danube Delta, a UNESCO World Heritage site.

The river is classically divided into three sections: the Upper Danube, from the source to Bratislava; the Middle Danube, up to the Iron Gates; and the Lower Danube, down to the delta. It is navigable over roughly 2,400 kilometres and connected to the North Sea via the Rhine-Main-Danube canal.

Chapter 3. Cumulative problems across the basin in 2026

The year 2026 is marked by drought and historically low water levels across the entire Danube basin.

- Record low water levels: Budapest has broken previous records; flows have in places fallen to a third of normal in Romania and Serbia.
- Navigation severely disrupted: cargo loads reduced by 30 to 40 percent, vessels grounded, cruises suspended.

- Hydropower: the Iron Gates plants, shared between Serbia and Romania, are operating at 20 to 30 percent of capacity.
- Nuclear power: the Paks plant in Hungary has been reduced to around 25 percent of capacity and threatened with full shutdown; the Cernavodă plant in Romania has had to be shut down.
- Agriculture, irrigation and ecosystems are under heavy strain, with cascading energy and economic impacts in several countries.

These difficulties are structurally linked to climate change, marked by reduced snow cover and repeated heatwaves, and to the fragmentation of the river through dams and embankments.

Chapter 4. Governance: ICPDR and EUSDR

International Commission for the Protection of the Danube River (ICPDR)

The ICPDR is the main body governing the basin, established by the 1994 Sofia Convention. Its headquarters is in Vienna and its presidency rotates annually. The 2026 presidency is held by Mariia Shpanchyk, Head of the Department of Water Management at Ukraine's State Agency of Water Resources, whose stated priorities are resilience to drought and climate change, the impacts of the war on the Lower Danube and the delta, and implementation of the Danube River Basin Management Plan. A permanent secretariat based in Vienna ensures technical continuity and supports successive presidencies.

EU Strategy for the Danube Region (EUSDR)

The EUSDR is a European macro-strategy bringing together fourteen countries, providing a framework for political cooperation and joint projects. The 2026 presidency is held by Bulgaria, under the motto 'Bridging Regions, Better Cohesion: A Stronger Danube for All'. Its priorities cover connectivity, cohesion, the European perspective of candidate countries, demographic resilience, and the Danube-Black Sea link. Technical support is provided by the Danube Strategy Point.

Chapter 5. Focus Hungary: consolidated case study

This chapter brings together all the elements concerning Hungary previously scattered across earlier versions of this dossier: the situation at the Paks plant, the emergency measures taken, the local complementary currency project, Hungary's institutional role in transnational basin governance, and its own reasoned evaluation. This consolidation makes Hungary the most complete and best-documented example in the dossier, usable as a structural template for an equivalent chapter devoted to another country in the basin.

5.1 Context: the Paks plant and dependence on Danube water

The Paks nuclear power plant, which supplies around 40 percent of Hungary's electricity, uses Danube water for cooling. The exceptionally low water levels of 2026 forced it to operate at greatly reduced capacity, with a risk of full shutdown.

5.2 Emergency measures taken in August 2026

The Hungarian government, under Prime Minister Péter Magyar, decided and implemented several emergency measures in August 2026: the immediate construction of a submerged sill between Paks and Dunaszentbenedek, mobilising around 145,000 to 150,000 cubic metres of stone; the controlled sinking of two 80-metre barges to temporarily raise the local water level, a measure under way as of 15 August 2026; and an emergency decree mobilising around 100 soldiers for round-the-clock works. The objective is to keep

the level above critical thresholds in order to avoid a full shutdown and the major associated costs, estimated at several tens of billions of forints per month.

5.3 Founding a local complementary currency: the Dunai Korona

A Hungarian local complementary currency project, linked to the Danube corridor, aims to bring together actors with a shared interest in valuing and protecting the Hungarian stretch of the river: producers, river tourism, local authorities and water-related services. The summary below remains faithful to the draft foundation document.

Disclaimer and scope. The draft foundation document is a non-binding template, prepared for discussion purposes, based on publicly available information regarding Hungarian complementary currencies known as forgatható utalvány, governed by Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises (Hpt.), and on existing models such as the Bocskai Korona. It does not constitute legal advice. Before any issuance, promoters must engage qualified Hungarian legal counsel specialising in financial services and company law, carry out the required prior notification to the Magyar Nemzeti Bank, incorporate the issuer entity with the capital and documentation required by law, and adapt every clause to the final business model, territorial scope and current legislation.

Suggested names. Dunai Korona, Danube Crown, the recommended name, following the successful Hungarian tradition of the Bocskai Korona and Balatoni Korona; Kék-Duna or Kék Duna Korona, Blue Danube, evoking the famous waltz; Danubius, an internationally recognisable Latin form; Dunai Tallér or Duna-Taler, with historical Central European resonance; Dunai Dukát, a prestigious historical coin reference; Dunafrank, echoing the existing Soproni Kékfrank; and EuroDuna or DunaEuro, explicitly signalling the euro reference.

Purpose and objectives.

- Promote balanced economic circulation along the Hungarian section of the Danube, from the Austrian border area through Budapest to the southern border regions.
- Keep purchasing power within local and regional circuits, supporting producers, service providers and tourism linked to the river.
- Incentivise sustainable practices, water-resource resilience, short supply chains and ecological responsibility in the face of increasing drought and low-water events.
- Strengthen community identity and cooperation among municipalities and economic actors along the Hungarian Danube corridor.
- Serve as a practical pilot that may later inspire compatible initiatives in neighbouring Danube countries.

Legal nature under Hungarian law. The currency would be issued as a forgatható utalvány, a transferable, negotiable voucher, pursuant to Section 3(2)e of the Hpt., which classifies the issuance of transferable vouchers as a complementary financial service. It is not legal tender: only the Hungarian forint, issued by the Magyar Nemzeti Bank, is legal tender in Hungary. Acceptance is voluntary and contractual, via acceptor agreements. The issuer must maintain full coverage of the outstanding face value in a segregated account or eligible assets, typically HUF or EUR deposits or government securities. Prior notification to the Magyar Nemzeti Bank is required before commencement of activity, specifying the name, denominations and planned total face value. If the annual volume of payment transactions exceeds the statutory threshold, currently HUF 300 million in certain cases, additional supervisory obligations may apply.

Recommended issuer form. The recommended legal forms, based on successful Hungarian precedents, are the nonprofit limited liability company, or Nonprofit Kft., a flexible and commonly used form; the closely held company limited by shares, or Zrt., particularly if linked to a municipal holding structure, on the model of the

Bocskai Korona backed by Hajdúnánási Holding Zrt.; or the cooperative, or Szövetkezet, a possible alternative for broader membership. The minimum registered capital generally required for this activity is HUF 10,000,000. Involvement or support from one or more municipalities along the Danube corridor is strongly recommended for credibility and local uptake.

Core operating rules.

- Euro reference: each unit has a nominal value equivalent to one euro; conversion into forint is carried out at the official MNB EUR/HUF reference rate, or at a fixed reference rate periodically set by the issuer's board.
- Full backing: 100 percent of the face value in circulation must be held at all times in a segregated bank account, or in eligible low-risk assets, with a credit institution established in the European Union.
- Demurrage, or holding fee, intended to encourage continuous circulation and discourage hoarding: a suggested rate of 2 to 5 percent per quarter, or an equivalent annual rate, implemented via stamps, electronic deduction or limited validity periods for series.
- Conversion fee for acceptors converting back into forint or euro, of not less than 5 percent, part of which may be allocated to administrative costs and to a dedicated fund supporting Danube-related sustainability projects.
- Geographic and ecological scope: an initial acceptance network covering municipalities and economic actors along the Hungarian Danube corridor, from the Győr area through to the vicinity of Mohács and the Serbian border, with acceptors adhering to an ecological and local charter covering water-efficient practices, preference for local or regional suppliers, and support for river-related sustainability goals.

Issuance process and governance. The recommended process comprises incorporating the issuer entity with the required capital and objects, drafting and adopting the general business conditions and the ecological charter, notifying the Magyar Nemzeti Bank, opening the segregated backing account and depositing the initial coverage, concluding acceptor agreements with businesses, municipalities and organisations, and then launching issuance in paper and/or electronic form, with regular publication of outstanding volumes and terms. The issuer's governing body must ensure transparency, regular public reporting of circulation volume and backing, and allocation of a defined share of conversion fees to Danube sustainability initiatives; an advisory council including municipal and civil-society representatives is recommended.

Recommended next steps.

- Select the preferred name and the final territorial focus, for example a specific cluster of counties along the Danube.
- Engage Hungarian legal counsel experienced in financial services and local-government cooperation.
- Explore partnership with one or more municipalities, or with a municipal holding structure.
- Prepare detailed general business conditions and the ecological charter.
- Initiate informal dialogue with the MNB and, if still active, with the Association of Local Currencies, the Helyi Pénzek Szövetsége.

5.4 Hungary's role in transnational Danube governance

Hungary, as the country currently most exposed on the energy front because of Paks, is identified as best placed to formally propose the drafting of the Danube 2026 After Action Review report at forthcoming meetings of the ICPDR Standing Working Group or Committee of the Parties, drawing on the 2026 Ukrainian presidency and the Vienna secretariat. It also maintains active bilateral or trilateral cooperation on critical navigation and industrial cooling thresholds, notably with Austria, Slovakia, and jointly with Serbia and Romania.

5.5 Reasoned evaluation: chance of success and benefits for Hungary

In the comparative evaluation detailed in Chapter 9, Hungary is assigned an estimated chance of success of between 55 and 65 percent, the most constrained among countries with major direct exposure, owing to the combination of maximum energy urgency, measures already under way, and dependence on largely exogenous hydrological conditions. The expected benefits in case of success are avoidance of a full shutdown at Paks, the cost of which is estimated at several tens of billions of forints per month, and validation of a local complementary currency pilot potentially replicable in other basin countries, as noted in Chapter 10.

5.6 Synthesis: Hungary as a case study for the basin

Hungary combines, within a single crisis sequence, a documented emergency technical action, an original economic and institutional proposal in the form of a local complementary currency, and a proactive institutional position within the basin's transnational governance. This combination makes it the most complete case in the dossier and a reusable template for documenting, using the same six-part structure, the situation of another basin country should such an extension be desired.

Chapter 6. Other priority actions for the basin

- Develop water retention and nature-based solutions: floodplain restoration, aquifer recharge.
- Optimise multi-purpose management of existing reservoirs, balancing low-flow support, navigation and energy production.
- Improve early-warning systems and shared drought monitoring at basin scale.
- Explicitly integrate low-flow issues into national drought-management plans and into the next cycle of the Danube River Basin Management Plan.

Chapter 7. Danube 2026 After Action Review Report

Publishing, under the auspices of the ICPDR and with the active contribution of Hungary and the other contracting parties, a transparent After Action Review report on the 2026 low-water crisis is strongly recommended. This report would aim for full transparency on the planning assumptions, drawn from the DRBMP and national drought-management plans, that were overtaken by the reality of 2026; a country-by-country analysis of decisions, investments or inaction that contributed to or worsened the situation; identification of missed opportunities, such as delays in restoring retention areas or overly slow adaptation of critical facilities; and mapping of upcoming opportunities and joint financing levers.

The coordinated actions envisaged in this report would include adopting a common low-water and drought protocol, with harmonised alert thresholds and temporary flow-sharing rules; an accelerated basin-wide programme of nature-based solutions; strengthened joint monitoring and shared forecasting models, linked to the Joint Danube Survey and the trans-national monitoring network; and systematic integration of low-flow issues into the next cycle of the basin management plan. Funding justifications would rest on the avoided cost of a prolonged shutdown at Paks or Cernavodă, estimated in the hundreds of millions of euros, and could draw on Interreg Danube Transnational Programme funds, the Recovery and Resilience Facility, proportional national contributions, European Investment Bank loans, or a possible multi-country Danube Resilience Fund. A link to the Hungarian local complementary currency is also envisaged as a tool for mobilising local interest and co-financing, demonstrating a replicable model. Hungary's role in formally proposing this report to ICPDR bodies is detailed in Chapter 5.4.

Chapter 8. Transnational technical cooperation tools

- ICPDR Expert Groups, covering hydrology, climate change and river basin management among other topics, together with the Standing Working Group, provide a permanent framework for technical exchange.
- EUSDR Priority Areas, in particular navigation, energy, water and environment, together with Danube Transnational Programme projects, provide a framework for project cooperation.
- The Joint Statement on Inland Navigation and Environmental Sustainability, version 2.0, ensures coordination between the ICPDR, the Danube Commission and the Sava Commission.
- Data sharing, via the trans-national monitoring network, the Joint Danube Survey and water-balance models, together with cross-border pilot projects on water retention, complete this framework.

Hungary's bilateral and trilateral cooperation efforts, notably with Austria, Slovakia, Serbia and Romania, are detailed in Chapter 5.4.

Chapter 9. Reasoned evaluation of chances of success and benefits by country

The evaluation below takes as its success criterion the probability that a coordinated emergency Danube-wide action, combining a common low-water management protocol, nature-based solutions, shared monitoring and financing arising from the After Action Review, allows each country to avoid or significantly limit its most pressing critical risk over the 2026-2027 window. This is a reasoned estimate based on each country's documented exposure, institutional and financial capacity, and measures already under way, not a statistical model.

Country	Exposure / main issue	Chance of success (reasoned estimate)	Expected benefits if action succeeds
Germany	Upper Danube, Rhine-Main-Danube canal, navigation	70-80%	Fluidity of the north-south trade corridor
Austria	Vienna, ICPDR headquarters, navigation, hydropower	75-85%	Institutional leadership, energy and river continuity
Slovakia	Bratislava, navigation, hydropower (Gabčíkovo), agriculture	65-75%	Local energy security, continued river traffic
Hungary	Paks (≈40% of national electricity) — see Chapter 5	55-65%	Full detail in Chapter 5.5
Croatia	Border stretch, agriculture, river tourism	65-75%	Agricultural protection, tourism value of the corridor
Serbia	Iron Gates (hydropower at 20-30% capacity), non-EU	50-60%	Restoration of hydropower capacity, limited EU fund access
Bulgaria	EUSDR 2026 presidency, navigation, agriculture	65-75%	Political and reputational leverage from the presidency, regional cohesion
Romania	Cernavodă already shut down, Iron Gates, UNESCO delta	45-55%	Energy and agricultural restoration, delta protection
Moldova	Very short Danube frontage (Giurgiulești), non-EU	40-50%	Preserved Danube-Black Sea access, candidate-status financing
Ukraine	ICPDR 2026 presidency, delta, wartime context	35-45%	Protection of the delta and of agricultural exports via Danube ports

Countries combining strong institutional and financial capacity with moderate exposure, Germany and Austria, show the highest chances of success. Hungary and Romania combine maximum direct exposure, notably nuclear, with a more constrained chance of success despite strong mobilisation. Serbia and Moldova are penalised by their non-EU status, which restricts access to financing such as the Recovery and Resilience

Facility or European Investment Bank loans. Ukraine combines maximum institutional leadership, through its ICPDR presidency, with the most constrained execution capacity, owing to the wartime context.

Chapter 10. Specific levers to support the countries with the lowest chance of success

The four countries with the lowest estimated chance of success, Serbia, Romania, Moldova and Ukraine, do not share the same primary constraint: access to financing for Serbia and Moldova, coordination speed for Romania, execution capacity under wartime conditions for Ukraine. The levers below are therefore differentiated by country rather than uniform.

Serbia

Not being an EU member, Serbia has no access to the Recovery and Resilience Facility reserved for member states. The most concrete lever consists of mobilising European instruments specifically designed for Western Balkan candidates, such as the Instrument for Pre-Accession Assistance and the Western Balkans Investment Framework, which can finance energy and water infrastructure. Joint ownership of the Iron Gates plants with Romania, an EU member, provides a second lever: a joint financing arrangement with Romania as co-applicant can widen the eligibility of shared projects for funds otherwise inaccessible to Serbia alone.

Romania

As an EU member, Romania already has broad access to financing, which limits the value of a purely financial lever. The main documented constraint is coordination and technical implementation speed, Cernavodă having already had to be shut down. A concrete lever consists of an accelerated joint task force with Serbia on the Iron Gates, co-financed by the Danube Transnational Programme, focused on modernising turbines for low-flow operation. A second, technology-transfer lever would examine the applicability to Cernavodă of a device inspired by the submerged sill built at Paks, or of closed-loop cooling solutions less dependent on river flow, within the framework of the Hungary-Romania bilateral cooperation already mentioned in Chapter 8.

Moldova

Moldova's Danube frontage, limited to a few kilometres around Giurgiulești, is its sole river and maritime outlet. This limited exposure also makes it the country where a modest lever can produce a proportionally significant effect. Connecting the Giurgiulești monitoring station to the trans-national monitoring network and the Joint Danube Survey would represent a limited investment with high signalling value, strengthening Moldova's integration into the basin's shared monitoring system. Its status as an EU accession candidate also opens access to pre-accession financing specifically intended to accelerate the integration of candidate-country infrastructure, a financing channel better suited to Moldova's scale than instruments reserved for member states.

Ukraine

The wartime context severely limits the capacity for heavy infrastructure investment, particularly in exposed areas of the Lower Danube and the delta. Realistic short-term levers therefore favour measures of low capital intensity: nature-based solutions, such as reconnecting wetlands, have the advantage of not requiring heavy construction works in exposed areas. Ukraine's ICPDR presidency provides a diplomatic lever available independently of domestic budgetary constraints, allowing delta-protection priorities to be placed on the multilateral agenda without depending on limited internal fiscal space. Finally, maintaining draught depth at

the river ports of Izmail and Reni, an alternative export corridor given disruption to the Black Sea route, directly links drought adaptation, through dredging and hydrological monitoring, to an economic and logistical resilience issue already a priority for Ukraine's international partners, which may facilitate access to European solidarity financing earmarked for Danube corridor resilience rather than for climate adaptation alone.

Cross-cutting lever: the local complementary currency as a replicable model

The Hungarian pilot presented in Chapter 5.3 could, as a hypothesis, inspire similar schemes in these four countries, particularly relevant where national fiscal capacity is the limiting factor rather than the will to act. A local currency or territorial crowdfunding instrument can mobilise otherwise idle savings, including, for Moldova and Ukraine, a share of diaspora savings, without weighing on already constrained national budgets. As with the Hungarian case, this option would remain subject to a national legal framework yet to be built and to rigorous governance conditions, and at this stage constitutes no more than a line of enquiry, not an operational recommendation.

Chapter 11. Principles for communicating with national bureaux responsible for the Danube

The question of transmitting this dossier to the national bureaux responsible for Danube-related matters, in order to encourage each country to take up the subject with its own tools, calls for a statement of principle before any concrete step is taken.

First principle, sovereignty of decision: each country decides, through its own institutions, whether and how to act. No extraterritorial approach, understood as an attempt to directly steer another country's domestic policy or to mobilise its population outside existing institutional channels, would be appropriate on the part of an individual author holding no official mandate.

Second principle, the existing institutional channel: the ICPDR has, for each of the ten countries crossed by the river, national delegations designated under the Sofia Convention, and the EUSDR has, for each of its fourteen countries, national coordinators. These structures exist precisely to receive technical contributions from external stakeholders. The most appropriate way to bring this dossier to the attention of the relevant authorities is therefore to transmit it, as a documentary contribution rather than an advocacy effort, to the ICPDR secretariat in Vienna or to national delegations and coordinators, rather than seeking direct contact with the populations or administrations of each country.

Third principle, the limits of the content transmitted: such a communication should confine itself to documented facts, such as observed water levels, the functioning of existing governance mechanisms, available European financing instruments, or the example of the Hungarian local complementary currency pilot detailed in Chapter 5, without recommending a specific policy to any given country or taking a position on politically sensitive matters internal to each country. This is the approach already outlined in Chapter 5.4 for Hungary itself, which may formally propose the drafting of the After Action Review report at meetings of the ICPDR Standing Working Group or Committee of the Parties: this procedure, grounded in the existing multilateral institution, is the model to follow rather than a bilateral or unilateral approach that would bypass it.

Fourth principle, neutrality toward contrasting national situations: the ten basin countries find themselves in very different political and institutional situations, whether in terms of EU status or the wartime context

affecting Ukraine. Any communication should remain strictly factual about these differences, without judgement on the national political choices underlying them.

Under these four principles, transmitting this dossier to the ICPDR secretariat, as a technical contribution made available for information, appears the most coherent approach with the governance mechanisms already described in this document, and the most respectful of the sovereignty of each country concerned.

Chapter 12. List of references

Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Sofia Convention), 1994.

International Commission for the Protection of the Danube River (ICPDR), institutional website: https://www.icpdr.org

EU Strategy for the Danube Region (EUSDR), Danube Strategy Point: https://danube-region.eu

Magyar Nemzeti Bank, central bank of Hungary: https://www.mnb.hu

Hungarian Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises (Hpt.), Section 3(2)e.

TNMN, Trans-National Monitoring Network of the Danube basin; Joint Danube Survey, transnational scientific monitoring programme.

Western Balkans Investment Framework (WBIF) and Instrument for Pre-Accession Assistance (IPA), European Commission institutional documentation.

Internal source document, Complete Dossier — The Danube — Focus Hungary, initial version, August 2026.

Internal source document, Hungarian Complementary Currency Foundation Document Draft, version 1.0, August 2026.

Chapter 13. Definition of acronyms

AAR : After Action Review, post-crisis retrospective analysis report

DRBMP : Danube River Basin Management Plan

EIB : European Investment Bank

EUSDR : EU Strategy for the Danube Region

Hpt. : Hungarian Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises

ICPDR : International Commission for the Protection of the Danube River

IPA : Instrument for Pre-Accession Assistance of the European Union

Kft. : Korlátolt Felelősségű Társaság, Hungarian limited liability company

MNB : Magyar Nemzeti Bank, the central bank of Hungary

RRF : Recovery and Resilience Facility

TNMN : Trans-National Monitoring Network of the Danube

WBIF : Western Balkans Investment Framework

Zrt. : Zártkörűen Működő Részvénytársaság, Hungarian closely held company limited by shares

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