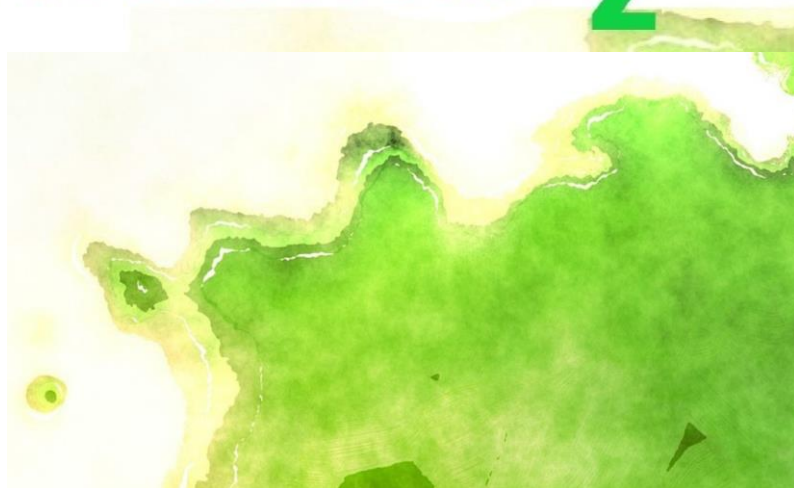


HIGH-LEVEL CONFERENCE ON **CIRCULAR ECONOMY 2**



**Macroregional cooperation as
booster for the uptake of
circular principles in the blue
economy – *plastics collection
& recycling and sludge
management***

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EUSDR, Priority Area 4 „Water Quality“

AI-NURECC PLUS ONLINE EVENT

11 | APR | 2022

European Union Strategy for the Danube Region

A Connecting the Region

- 1 Mobility and multimodality
- 2 Sustainable energy
- 3 Culture and tourism, People to People

B Protecting the Environment

- 4 Water Quality
- 5 Environmental Risks
- 6 Biodiversity, landscapes, air and soil quality

C Building Prosperity

- 7 Knowledge Society
- 8 Competitiveness
- 9 People and skills

D Strengthening the Region

- 10 Institutional capacity and cooperation
- 11 Security

PA4 – to restore and maintain the quality of waters

- **ACTION 1: HAZARDOUS & EMERGING SUBSTANCES:**
Promote monitoring, prevention and reduction of water pollution deriving from hazardous and emerging substances e.g. **plastics & micro plastics**, pharmaceuticals, PFOS).
- **ACTION 2: WASTE WATER:** Continue boosting major investments in building, upgrading, maintaining and rehabilitating urban wastewater treatment facilities and **sludge management**
- **ACTION 3: WATER & AGRICULTURE:**
- **ACTION 4: DRINKING WATER**
- **ACTION 5: MIGRATORY FISH**
- **ACTION 6: CLIMATE CHANGE**
- **ACTION 7: TOOLS**

Plastic Pollution

- Every day the Danube washes 4 tons of plastics into the Black Sea. Some Danube countries have neither effective bottle recycling systems nor sound waste prevention strategies. Micro-plastics is especially alarming, they are not visible to the naked eye and dispersed throughout the water.
- Plastic pollution is adversely affects humans, wildlife and their habitat.
- Collection of plastic waste (i.e. raw material for circular economy) and production of new products

There is estimated that 1000 rivers, represented by the red dots, are accountable for nearly 80% of global annual riverine plastic emissions, which range between 0.8 – 2.7 million metric tons per year.

<https://theoceancleanup.com/sources/>



Best practice examples from the Danube countries in plastics management

PlasticFreeDanube project

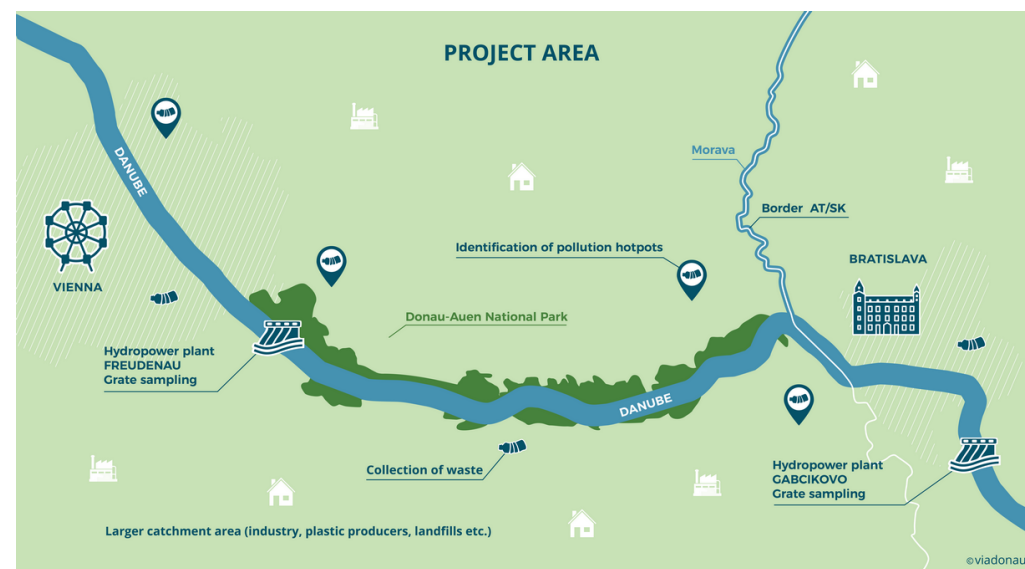
10/2017 – 09/2020; Interreg V-A Slovakia-Austria 2014-2020

Project focuses on macro plastic waste (particles larger than 5 mm) in and along the river Danube. The overall aim of the project is to establish a scientifically sound knowledge base as well as a methodological approach in terms of entrance points, quantities, transport patterns, and environmental threats.

Project objectives:

- Development of methods and collection of data for an assessment and monitoring of plastic pollution in fluvial ecosystems
- Development of an action plan for the management of plastic waste and implementation of pilot measures against plastic pollution in and along the Danube
- Awareness raising of the public and stakeholders about plastic litter pollution in rivers and possibilities of waste avoidance

<https://www.viadonau.org/en/company/project-database/aktiv/plasticfreedanube>



The action AI-NURECC PLUS has received funding from the European Union



Best practice examples from the Danube countries in plastics management

Litter Trap project

- 09/2021 -09/2022, pilot project
- an initiative of CLEAR RIVERS, the Audi Environmental Foundation supported by a strategic number of partners such as Audi Hungary, ING, PLASTIC Cup, Budapest University of Technology and Economics, Európa Hajó and Hungarian Association of Environmental Enterprises.
- the first floating Litter Trap in the Danube River in Budapest

Objective of the pilot project - to recover plastics and other waste from the Danube.

- collect floating plastic waste
- explore its recycling potential for creation of new durable products
- introduce new technologies
- education and awareness raising aspects

<https://www.clearrivers.eu/litter-traps-budapest>



Best practice examples from the Danube countries in plastics management

Tidy Up project

F(ol)low the Plastic from source to the sea: Tisza-Danube integrated action plan to eliminate plastic pollution of rivers

07/2020 – 12/2022; Interreg Danube Transnational Programme

Project focuses on the improvement of water quality by reduction of plastic pollution in one of Europe's most heavily contaminated rivers, the Tisza, and investigates plastic pollution and its effect on the Danube and the Black Sea.

- to standardize methods for pollution estimation (sources, nature and risks of contamination flows);
- to provide legislative solutions on local and transnational level.
- to raise awareness of the relevant actors (create active and cooperating communities; involve water authorities)

<https://www.interreg-danube.eu/approved-projects/tid-y-up>

Plastic Cup – competition in waste collection on the Tisza River

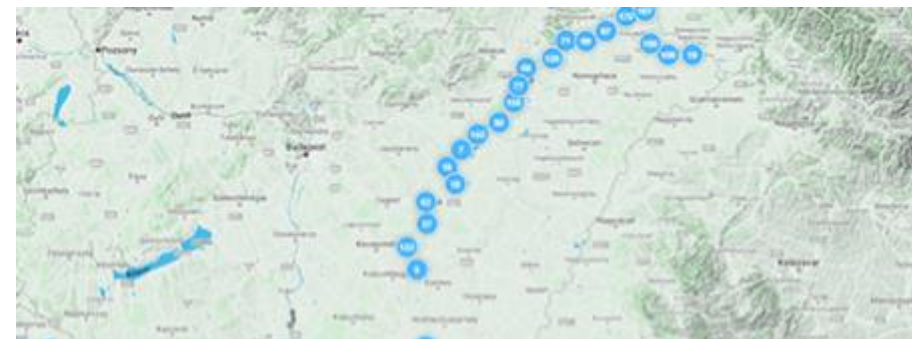


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Best practice examples from the Danube countries in plastics management

Plastic Cup <https://petkupa.hu/eng/>

- ✓ non-profit, non-governmental initiative
- ✓ annual activities to eliminate waste pollution on river Tisza
- ✓ main goals: conservation of living waters, water sports promotion (kayaking, canoeing) and community building.



Environmental actions contribute to clean river Tisza by :

- organizing events, exhibitions
- waste collection campaigns (several months)
- team-building activities
- professional discussions



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Best practice examples from the Danube countries in plastics management

RIVER SAVER TRUCK

an environmental feature documentary about Ukraine's efforts to stop its transnational plastic pollution of rivers

Béla Francz, a single man in Transcarpathia, Ukraine, started to clean up the Tisza and inspired thousands of others to join him.

<https://www.youtube.com/watch?v=Tx1kSjq4OIQ>



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Best practice examples from the Danube countries in plastics management

CleanDanube project

spring 2022; Perspektive DONAU, Baden-Württemberg Stiftung and Deutsche Postcode Lotterie

- Scientists have found more plastic particles in the Danube than fish larvae.
- The Danube washes 4 tons of plastics into the Black Sea every day

Project objective: attracting media attention to highlight the issues of plastic pollution - to reduce water pollution, avoid plastic waste, recognize the dangers of micro-plastics and appreciate the Danube as an invaluable natural habitat.

Andreas Fath, Professor of Chemistry at Furtwangen University of Applied Sciences is swimming the length of the Danube. 2700 km.

Aims:

- campaign and an educational programme
- take water samples regularly
- produce a documentary about journey on the most international river on earth

<https://www.cleandanube.org/?lang=en>



Best practice examples from the Danube countries in plastics management

Joint Danube Survey 4 (JDS4) - ICPDR

one of the most comprehensive investigative surface-water monitoring efforts in the world

Main objectives :

- to collect data on parameters normally not analyzed during ongoing monitoring;
- to collect information about the water characteristics and organisms living in a variety of locations along the river in a format that is readily comparable across regions and countries; and
- to raise awareness of the quality of the Danube waters and the ongoing protection and restoration efforts.

+ microplastics - JDS4 could produce an information baseline on the occurrence of plastic particles for the whole Danube.

<http://www.danubesurvey.org/jds4/about>



Best practice examples from the Danube countries in plastics management

SLOVAKIA SEPARATES PLASTIC WASTE

Act no. 302/2019 Coll. on advance payment system for disposable PET bottles and cans
valid since 01/01/2022

Main objective: to intensify waste collection of single use plastic packaging and cans

Act specifies:

- rights and duties of legal and physical persons in advanced payment for single use packages of drinks (e.g. rights and duties of a producer or a distributor of such packaging)



The action AI-NURECC PLUS has received funding from the European Union

Sludge management in the Danube Region

EUSDR PA4 preparatory study on sewage sludge management in the Danube Region <https://waterquality.danube-region.eu/preparatory-study-on-sewage-sludge-management-in-the-danube-region/>

Workshop - June 2021

Goals:

- improve knowledge about sludge management in the Danube Region,
- discuss policy option for future sludge management with the European Commission in light of the EU Green Deal and the on-going review of the EU Sewage Sludge Directive
- share good technological practices

DE: 75% of sewage sludge is incinerated

SK: 50% composted, 22% of sludge is used for energy recovery,

RO: application of sludge to agricultural land

AT: 53% of sludge to thermal treatment, 20% directly applied in agriculture,

IE: 98% of sludge is used in agriculture.

NO: 82% sludge in agriculture, 1% incinerated

SE: 60% is for land reclamation 39% recycling of organic matter and nutrients on farmland, 1% is incinerated



Workshop on sludge management in the Danube Region

Conclusions of workshop:

- **better integration of regulations, policies on waste, water and sludge management in line with the green deal initiative**
- **common understanding of sludge as a waste/pollutant or product/resource in circular economy should be adopted to better tackle the complex challenges of sludge management.**
- **better coordination, cooperation of responsible authorities and relevant stakeholders**
- **knowledge sharing, exchange of information, transboundary co-operations**
- **social aspects, affordability**
- **increasing sludge volumes which represents a serious challenge for utility sector and industry**
- **pollutant content of sludge**
- **sludge management solutions applied drastically differ across countries ranging from use in agriculture to incineration**
- **there is no one-size-fits-all solution, but a mix of treatment solutions can be the most appropriate aligned with national, local particularities.**

Thank you for your attention

<https://waterquality.danube-region.eu/>

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