Interreg Danube Region

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Tethys – Kick-off conference

SO2 – Fit-for-purpose and harmonized HS emissions modelling for emerging challenges and pressures

Vienna – 11.04.24

Adrienne Clement, BME

Specific objectives (SO2)

- Implementation of hazardous substances (HS) **emission models in an operative way**,
- **Harmonized approaches** and tools between EU, non-EU countries and at a transnational scale in the Danube River Basin,
- This harmonization will facilitate comparative analyses and information exchange between **DRB countries** and at the **transnational level**,
- Carrying out the complex **risk analyses and scenarios assessments** required for the prioritisation of policy measures and strategies, in view of the changing EU water-related legislation
- **Increasing institutional competencies** in HS emission modelling and risk analysis.

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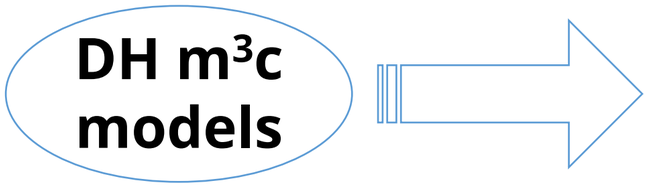
Specific objectives (SO2)



Harmonised DRB-wide HS emission model
+ National emission models (6 EU + 3 non EU countries)

- **Upgrade, extension**, and technical implementation to **transform it from an expert tool into a fully operative management tool,**
- **Large-scale** application and **validation for large sub-catchments,**
- **Analysis of emission pathways** for being the adequate management support tool → support **model-based risk assessment and scenario analysis** (SO3–A3.3)
  - **ICPDR will adopt the model** as an operative tool for transnational risk assessments and policy support.
  - PPs will install and technically set up the model in their own IT infrastructure and they **will be able to use it for their own purposes.**

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Specific objective 2: Fit-for-purpose and harmonized HS emissions modelling for emerging challenges and pressures

SO1	SO2	SO3
A1.1 Monitoring Lead: **PP7 JSI**	A2.1 Transnational emission model Lead: **PP2 BME**	A3.1 Policy evaluation Lead: **LP1 TU Wien**
A1.2 Chemical analyses - methods Lead: **PP6 WRI**	A2.2 National emission models Lead: **PP12 UBA**	A3.2 Scope of substances for DRB Lead: **PP8 CETI**
A1.3 Data availability Lead: **PP4 BWA**		A3.3 Scenario and risk assessment Lead: **PP8 BME**
A1.4 National databases Lead: **LP1 TU Wien**		A3.4 Transnational strategy Lead: **PP3 ICPDR**
A1.5 DRB database Lead: **LP1 TU Wien**		
A1.6 Project conferences Lead: **PP3 ICPDR**		

Input DATA → **HS model** → **Assess-ment tool**

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Activities	A2.1 Basin-wide modelling	A2.2 National emission models
Scaling	Whole Danube Basin (Preliminary AU delineation is based on DRB MONERIS model, validation for large sub-catchments)	Country level (spatial resolution might be different) Countries: Austria, Slovakia, Hungary, Croatia, Serbia, Montenegro, Romania, Bulgaria and Ukraine
Purpose	Support transnational risk assessment and elaboration of transnational coordinated strategy	Support national policy, delineation of hotspots, etc depending the country's priority (they are able to add new variables and calculation approaches to adapt the model to territorial specificities
Substance	Predefined PFOA-PFOS, selected pharmaceuticals, PTE (metals)	Extended with nationally relevant substances
Timeline	01.2024 – 12.2025 (24 months)	01.2024 – 06.2026 (30 months)
Involved PPs	Lead: BME All PPs (scientific support and providing input data to consider regionality)	Lead: UBA TU-Wien, BME, BWA, NARW, WRI, CETI, UHMI, HV, JCWI

Expected outcome

A2.1 Transnational emission model

Period: Months 1 - 24

2024 December: D.2.1.1
The technical set-up of the upgraded model, including revised algorithms, calculation approaches, and updated input data.

2025 December: Outputs
2.1 Testing and demonstration
2.3 Fully operative transnational HS emissions model as a fit-for-purpose tool for risk assessment and evaluation of scenarios for policy support under new complex challenges and pressures

A2.2 National emission models

Period: Months 1 - 30

2025 December: D.2.2.1
Installation, functional and operative integration of the HS emission model in the IT infrastructure in nine institutions.

2026 December: Outputs
2.2 Testing and demonstration in national institutions
2.4 Fully operative national HS emissions models as fit-for-purpose tools for risk assessment and evaluation of scenarios for policy support under new complex challenges and pressures

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Adrienne CLEMENT

Clement.adrienne@emk.bme.hu

Budapest University of
Technology and Economics (BME)