



**A MI DUNÁNK**  
ORSZÁGOS KIKÖTŐFEJLESZTÉSI FŐTERV

# National Port Development Masterplan Strategy

Strategic Environmental  
Assessment (SEA)

Information document



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# 1 STRATEGIC ENVIRONMENTAL ASSESSMENT ELABORATION PROCESS, METHOD AND RESULT

In the framework of the project titled “Developing a plan for the strengthening of the Danube freight transport through the development of the TEN-T port infrastructure, in particular the port of Komárom” with support in the CEF (Connecting Europe Facility) programme obtained by the Ministry for Innovation and Technology (earlier: Ministry of National Development), upon assignment by MAHART Hungarian Shipping Company, the Consortium of EX ANTE Consulting Ltd. and MAHART Passnave Ltd., and within it TRENECON Consulting and Planning Ltd. prepared the Strategic Environmental Assessment of the National Port Development Masterplan Strategy (hereinafter: Strategy).

## 1.1 Process of SEA procedure

Pursuant to EU Directive 2001/42/EC and Government Decree 2/2005. (I. 11.) on the strategic environmental assessment of certain plans and programmes (hereinafter: SEA Decree) strategic environmental assessment (SAE) shall be prepared for the strategies being elaborated, and the assessment will become part of the Strategy.

The SEA Decree determines the process of SEA preparation. One of the particular features of the SEA process is that SEA must be elaborated in harmony with and parallel to the strategy, and this determines also the schedule of strategy preparation.

SEA consists of two major steps:

1. Elaboration of thematic focus areas,
2. Environmental assessment,

and agreement of the documents produced as a result of the above processes with the environmental bodies.

The thematic focus areas practically constitute a preliminary draft of the Environmental Assessment that roughly outlines the thematic focus areas that will be elaborated in the Environmental Assessment and their level of detail.

Another particular feature of SEA specified in the SEA Decree is that SEA is not an authority procedure, i.e. the following tasks that are performed in an authority procedure are performed in the SEA procedure by the party that elaborates the strategy (Client):

- inviting environmental bodies to participate in the process (by inviting them to give their opinion on the thematic focus areas), and
- collecting opinions from the environmental bodies, and (in the phase of giving opinion on the environmental assessment) from the public.

Supply of information to the public is an essential element of the SEA process, that is part of both the thematic focus areas and the process of giving opinions on the Environmental assessment.

## 1.2 Presentation of the methodology used

The methodology of environmental assessment was elaborated on the basis of the Guide prepared for the implementation of the SEA Decree, additionally considers also the methodology used for environmental assessment of the National Transport Infrastructure Development Strategy.

The methodology is elaborated as follows:

1. evaluation of the strategy according to the environmental policy goals of the EU and of Hungary
2. environmental performance evaluation system.

While relaying on the principles of precaution and prevention, we made efforts during the performance of environmental assessment to identify, in compliance with the Government Decree, during the implementation of the Strategy the impacts and driving factors for all environmental factors and environmental systems.

The following environmental parameters were assessed:

For the environmental elements:

- arable land, soil, minerals,
- air,
- waters,
- living species,
- built environment.

For the environmental systems:

- land<sup>1</sup>,
- residents and economic activity of (a) settlement(s),
- climate change,
- natural systems,
- biodiversity.

Additionally:

- Cumulated impacts of implementation of the measures,
- Presentation of potential cross-border environmental impacts.

The impacts on the above environmental features, systems are evaluated through classification in the following categories:

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<sup>1</sup> Land is defined, in accordance with the definition given in Act LIII of 1996 on the protection of the nature, as an area delimited in space, having special particular forms, in which interaction between natural and human systems takes place.

Landscape means the visual appearance of land developed through the interaction of given natural and artificial land forming factors, as interpreted at a given moment.

?	the significance of the impact cannot be judged / sufficient data are not available
+3	highly positive impact
+2	positive impact
+1	slightly positive impact
-1	slightly negative impact
-2	negative impact
-3	highly negative impact
0	no impact / not relevant

An essential step in the environmental assessment process is integrating into the strategy the opinions of environmental bodies and of the public.

## 1.3 Result of the environmental assessment

SEA is prepared for the Strategy in which the following objectives have been identified:

- incentives for modal shift
- generating further demand
- generating a financing system
- developing human resources
- developing a sustainable regulatory environment

The following tables show a summarised evaluation of the direct impacts of the activities connected with/specified for the achievement of the goals of the Strategy on the environmental elements and the environmental systems. Evaluation according to the tables was carried out on the basis of expert estimation, with combined consideration of the direct impacts.

*Table 1: Level of direct impacts on the environmental elements*

	land, soil	air	waters	living species	built environment
incentives for modal shift	-1	-1	-2 risk	-3 risk	-1 risk
generating further demand	-1	-1	-2 risk	-3 risk	-1 risk
generating a financing system	no impact	no impact	no impact	no impact	no impact
developing human resources	no impact	no impact	no impact	no impact	no impact
developing a sustainable regulatory environment	no impact	no impact	no impact	no impact	no impact

-3: highly negative; -2: negative; -1: slightly negative; 0: no impact / not relevant; +1: slightly positive; +2: positive; +3: highly positive

*Table 2: Level of direct impacts on the environmental elements' systems*

	land, settlement systems	climate change	natural systems, biodiversity
incentives for modal shift	-2 risk	-1	-3 risk
generating further demand	-1 risk	-1	-3 risk
generating a financing system	no impact	no impact	no impact
developing human resources	no impact	no impact	no impact
developing a sustainable regulatory environment	no impact	no impact	no impact

-3: highly negative; -2: negative; -1: slightly negative; 0: no impact / not relevant; +1: slightly positive; +2: positive; +3: highly positive

With a performance of the interventions planned in the Strategy new environmental conflicts, problems may arise, or the existing ones may strengthen, which is summarised in the following table.

*Table 3: Potential environmental conflicts arising*

	Conflict		
	designation	description	impact / probability
incentives for modal shift	damage to the built / archaeological heritage	The infrastructure elements will be constructed along the Danube in areas of enhanced importance for the built and archaeological heritage	-1/medium
	involvement of natural values, Natura 2000 sites	The planned interventions will be carried out on natural values on and around the Danube, in Natura 2000 sites, or in the direct vicinity of such areas	-2/medium
	increase in water traffic and enforcement of the WFD goals	with the increased water traffic enforcement of the WFD goals is more difficult	-2/medium
generating further demand	damage to the built / archaeological heritage	The infrastructure elements will be constructed along the Danube in areas of enhanced importance for the built and archaeological heritage	-2/medium
	involvement of natural values, Natura 2000 sites	The planned interventions will be carried out on natural values on and around the Danube, in Natura 2000 sites, or in the direct vicinity of such areas	-2/medium
	increase in water traffic and enforcement of the WFD goals	with the increased water traffic enforcement of the WFD goals is more difficult	-2/medium

Impact strength: -3: highly negative; -2: negative; -1: slightly negative; 0: no impact / not relevant; +1: slightly positive; +2: positive; +3: highly positive

Probability: high; medium; low

### Proposals for mitigating the negative impacts

The following major measures were identified for avoiding the negative impacts found during the environmental assessment of the Strategy or for mitigating their impacts.

For destruction, degradation of arable land and soil:

- When the location for construction or expansion of ports is designated agricultural areas with valuable living species, good production capabilities, as well as valuable forest areas must be considered, within the limits of technical constraints. Use of such areas should be avoided, or use of such areas should have only the technically required level.

For change of the quantity of construction raw materials:

- When constructing facilities, the possibility of using construction materials removed from other facilities must be examined. The evaluation criteria in tenders must include reuse of materials removed from other facilities, while construction materials may be obtained only from mining sites possessing environmental permit.

For disturbance to living species due to increased traffic, involvement of Natura sites:

- The speed of ships causing high waves should be restricted.

For increased load on waters due to increased traffic:

- The planned port developments must be designed through coordination of requirements for environment protection, protection of living species and technical tasks, and during the developments efforts must be made to find a solution that is optimal in all respects.
- The planned developments may affect also water resources with embankment filtering.
- When modernising the ship fleet the natural conditions of rivers can be considered.

For increased load on the air (noise, greenhouse gases) due to increased traffic:

- With the modernisation of the ship fleet noise and air pollution can positively change even with increased traffic
- With the purchase and use of up-to-date equipment, devices operated with alternative fuel noise and air load can significantly decrease
- Electrified line would be constructed for the newly developed port railway line that does not directly cause additional load on the air,

For disturbance to land (landscape, spatial structure, ecological network):

- When the location for construction or expansion of ports is designated valuable land formation elements should be considered and avoided, within the limits of technical constraints.

For the built environment (settlements, architectural and cultural heritage):

- Land development carried out as a result of port developments must be adjusted to site capabilities through regulatory means, by considering the natural capabilities of the area designated for development.
- Before the construction the possibility must be ensured for the excavation of archaeological sites (land acquisition, time requirement, cost, etc.)

For increased volume of waste and change in its composition:

- Wastes must be collected, transported, deposited according to legislation in force.
- With the use of green terminals the wastes generated on ships can safely be deposited in environmental terms. This measure is identified also in the Strategy.



## 2 POSSIBILITY OF CROSS-BORDER IMPACTS

Although the territory of Hungary is only 1% of the territory of Europe, the utilisation rate of the infrastructure located in the country is much higher due to its transport-geographic location, transit function. Consequently, the Hungarian infrastructure network elements serve in addition to domestic transport needs also international needs.

The trans-European transport network crosses Hungary at several points due to its location in Europe. The interconnection points, sections are shown in the following tables.

*Table 4: Core network corridors crossing Hungary and their predefined sections*

Core network corridor	Section affected	Transport mode
Mediterranean	Rijeka – Zagreb – Budapest	railway
	Pragersko – Zalaötvő	railway
	Lendava – Letenye	road
	Boba – Székesfehérvár	railway
	Budapest – Miskolc – Ukraine border	railway
	Vásárosnamény – Ukraine border	road
East/East–Mediterranean	Bratislava (Pozsony) – Hegyeshalom	railway
	Mosonmagyaróvár – Slovakia border	road
	Tata – Biatorbágy	railway
	Budapest – Arad – Timisoara (Temesvár) – Calafat	railway
Rhine - Danube	Wien (Bécs) – Bratislava (Pozsony) / Wien (Bécs) – Budapest / Bratislava (Pozsony) – Budapest	railway
	Budapest – Arad	railway
	Komárom – Komárno	Inland shipping

Source: Regulation 1316/2013/EU <https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:32013R1316&qid=1547819208536&from=HU>

The Budapest – Zólyom (Zvolen) and the Budapest – Slovakia border sections connect to the core network as cross-border sections.

*5: Airports, ports and railway-road terminals of the core network and of the comprehensive network in Hungary*

Node name	Airport	Inland port	Railway-road terminal
Baja		comprehensive network	
Budapest	core network (Liszt Ferenc)	core network (Csepel)	core network (Soroksár)
Debrecen	comprehensive network		
Dunaújváros		comprehensive network	
Győr		comprehensive network (Győr-Gönyű)	
Komárom		core network	
Miskolc			comprehensive network
Mohács		comprehensive network	
Paks		comprehensive network	
Sármellék	comprehensive network		
Sopron			comprehensive network

Node name	Airport	Inland port	Railway-road terminal
Szeged		comprehensive network	
Székesfehérvár			comprehensive network
Záhony			comprehensive network

Source: Regulation 1316/2013/EU <https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:32013R1316&qid=1547819208536&from=HU>

The Danube section in Hungary, as part of the Danube-Rhine-Main waterway system, creates connection not only to the countries through which the inland water corridor flows, but also with the North Sea and the Black Sea. The Danube, as part of the Rhine-Danube corridor, is the major east-west connection in the continental Europe.

In June 2015, three main network corridors were identified in the West Balkans:

- Danube in Serbia
- Sava in Serbia and Bosnia and Herzegovina
- Tisa in Serbia

Based on the above, it is evident that the core network elements are located densely in Hungary, including the Danube and its ports, the road and railway connections to the capitals of the neighbouring countries (Wien, Bucuresti, Beograd, Zagreb, Ljubljana, Bratislava).

For this Strategy we assessed the cross-border impacts on the basis of the above, for the following countries:

- Austria
- Slovakia
- Serbia
- Romania

**Austria** is located upstream of Hungary on the Danube, therefore the investments planned in Hungary will not have any impact on water quality in that country. The activity does not have any element that would have backwatering impact, thus no impact on water volume is expected either.

For soil and waste the potential impacts occur mostly in the area of ports, thus we do not have to reckon with such impacts either as cross-border impacts in Austria. For the environmental and natural systems, the planned port developments are located at such a large distance to the border that we do not have to reckon with such impacts either.

Based on the above, we can declare that we do not have to reckon with cross-border impacts in Austria.

Port development activities in Hungary can have more impacts on **Slovakia** due to the common border river. The planned investments may have impacts on water quality in the domestic section, but such impact will not be perceived on the Slovakia side. The activity does not have any element that would have backwatering impact, thus no impact on water volume is expected.

Due to the increased shipping traffic increased noise load is expected, but its impact will practically be compensated on the Slovakia side due to the replacement of the ship fleet.

For soil and waste the potential impacts occur mostly in the area of ports, thus we do not have to reckon with such impacts in Slovakia. For the environmental and natural systems, the planned

port developments will have slight impact, primarily due to the increased shipping traffic, but due to the connected environment protection measures there will be no specific cross-border impact. Impact on climate change can be interpreted at global level. Water transport, that is more positive, will come to the forefront also on the border section involved.

Based on the above, we can declare that we not have to reckon with cross-border impacts in Slovakia either.

The planned port development interventions may have an impact also on the countries located downstream on the Danube. For **Serbia** the interventions planned on the Hungarian side are at such a large distance to the border that these will not have any change in water quality or water volume. Like for Austria, no cross-border impact on soil and wastes is expected.

Although due to the increased shipping traffic increased noise load is expected, but its impact will practically be compensated on the downstream sections of the Danube due to the replacement of the ship fleet. Based on the above, we can declare that we do not have to reckon with cross-border impacts neither in Serbia, nor in Romania.

**Based on the above, we can declare that all in all we do not have to reckon with cross-border impacts of the Strategy.**