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Consultation on the EU Strategy for the Danube Region
Contribution by VIRUS
Proposal for a Strategy/strategic elements

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SECTION A: PREFACE

Note: we'd like to cross-refer the contribution WWF-DCP has submitted (together with NFI) declare our support for this contribution as well, and ask for carefully taking into account their recommendations and proposals.

Addressing some of the questions addressed by scoping paper

Topics

1.The main challenges of Danube region is to enable the overcome historic division, without causing "transport avalanches" which in consequence would make it impossible keep to energy input, energy dependencies and greenhouse gases under control. On the other hand keeping the Danube river basin on track towards reduced energy input, decreased dependency of energy resources, decarbonization needs to be managed without disabling "convergence".

Transport should not only be seen as reduced technical aspects and not limited to the construction and development of technical infrastructure. Organizational issues, aspects of spatial-planning and life-style need to be part of the portfolio at well.

Additional "cohesion" needs to be balanced against keeping potentials for regional (local) development keeping in mind the principles of subsidiarity

Inland navigation can fill a significant niche but by far does not have the potential to address transport problems as a whole.

Transport issues should focus on both transport of persons and goods, including maintaining and improving public-transport systems.

2. The river Danube as the name-giving for the strategy needs to be considered in connection with its manifold services it is providing and not be reduced as it's

frequently be done just reduced to highway for inland navigation. In the context of climate-change resilience these services are of increased importance.

The Danube river system has always provided numerous important benefits and services for people living along the river: provision of drinking water, natural resources (e.g. fish, reeds, timber from floodplains, water for agriculture), natural filtering capacity of pollutants, provision of habitats and places of recreation, and natural flood protection through retention of floodwaters in floodplains additionally helping with "climate buffering", to name a few.

These services will only be delivered if the following ecological objectives and conditions are met:

- Sufficient amounts of water and space are left for the river to function
- Natural fluctuations in water flows and levels, including high (flood) and low (drought) levels
- Up- and downstream connectivity so water, sediment and organisms (e.g. fish) can travel freely
- Unobstructed connection of the river to side arms, floodplains and wetlands so water, sediment and organisms can travel freely
- "Good quality" riverbank and riverbed substrate as provision of habitat, i.e. natural materials that can be formed and shaped by water flows and natural erosion and sedimentation processes
- Viable populations of all native Danube flora and fauna species for the different Danube stretches are secured, covering the full richness of biodiversity and indicating intact and adequate habitats in the river and adjacent wetland ecosystems
- No water and sediment pollution exceeding natural carrying capacity and/or at least legal limits regarding also the needs of the Danube and Black Sea
- Respect of the hydromorphological1 integrity of the river

[1] "Hydromorphology" is the physical characteristics of the riverine structures such as river bottom, river banks, the river's connection with the adjacent landscapes and its longitudinal as well as habitat continuity.

- High diversity of river, banks, wetlands and natural landscapes along the Danube, serving both people and nature.

In accordance with the spirit and regulations of Water- Framework directive, a good status of Danube's tributary rivers is part of the "portfolio" as well.

3. Energy related issues should not be purely focused on electricity but also lower-exergetic energy forms.

Implementation

Cross border links should be considered to be more of a mental-process as well, growing together is an intrinsic that does not require its expression in excessive construction of technical "artifacts".

Approach

The main contribution a proper Danube Strategy can do, is to initiate, ignite and synchronize these efforts, being the nucleus for an increased level of communication and exchange of ideas.

For the discussion of selected issues and questions in a more specific ways, including some concrete actions and (flagship projects) please see Sections B and C below.

Anthropogenic structural measures can modify a river system's natural background conditions and therefore influence its ecological status.

SECTION B: CONSIDERATIONS on selected issues

Transport –mobility- traffic

First of all any successful strategy requires to carefully consider the difference between mobility and a certain amount of traffic (measured in person-kilometres). Despite that it is required to consider these as separate categories, it is frequently be found intertwined even by transport related planners or politicians. Similar to the soft-linked relation between "energy services" and the energy (measured in technical units) used to provide these services, there are different paths to serve societies mobility needs and demands[2]. Reconsider mobility "needs" and serve mobility demand with a minimum of transport efforts and resulting traffic!

Thus transport issues cannot be discussed seriously without considering spatial-planning and phenomena like (sub-)urbanization- development/draining of rural regions (sometimes related to infrastructure effects)

A Danube strategy transport-policy pillar therefore calls for common solution for spatial planning problems, sub urbanisation, short and long term so called "induced transport" on a river-basin wide approach.

Any responsible transport policy has to take into account that transport and the related energy consumption is one of the main-if not the main driving factor for increased greenhouse-gas emissions, and that transport as a whole is the sector of final energy-use that has a low overall efficiency not the lowest in terms of percentile but facing the worst energy-losses in absolute numbers.

To resolve this, technical improvements in vehicles and vessels, or just attempts to switch parts of the fuel supply to non-fossiles (agrofuels- sometimes referred to as biofuels) are not sufficient as the restricting of transport policy focus on

[2] Note that these have a lot to do with paradigms (changing over time) as well.

just a limited range of issue inevitably leads to overcompensation caused by the dynamics of other effects (deep-sags in goods-transport caused by economic crisis we observe right now can be considered as temporarily, as they are not based on structural changes)

Carefully balance between the requirement of reducing overall transport, regionalization of economy on the one hand and providing exchange, and "development" (that will be transport-effective) for "less developed" eastern european countries that have accessed the EU rather recently is needed.

Significant share of transport relations are short distance. Nevertheless improving this area could and should be part of Basin wide cohesive common task towards a more environmentally- benign transport system.

As Danube strategy is not a pure Danube river but rather a Danube river-basin based strategy, transport related considerations should not be focussed on inland navigation. Recent comments made by the new Austrian member of the European Commission Mr. Hahn asides the Budapest-conference indicate that there is indeed the danger, that Danube strategy process might overemphasize the classic mainstream "navigability-improvement" and as a consequence will fail as an overall strategy (affecting the segment of transport as well as environment and socio-economics). A new Danube strategy should not follow misconcepted attempts the Danube commission has followed over decades and just warm-up attempts that have proven to be unsuccessful over a long period of time.

Note

In 2009, 22 major international and national NGOs originating from (nearly) all Danube river-basin states (including VIRUS AT and WWF) agreed on a "Common NGO position on Navigation in the Danube Basin," see http://assets.panda.org/downloads/ngo_danube_navigation_position_final_3.pdf

Transport in general- with special focus on transport of goods

Considerations of evolving transport systems has to consider multimodal transport systems

Some transport modes are more environmentally benign (in terms of energy efficiency and greenhouse gases) than others[3]. Airborne transport is on the negative side of the scale, maritime navigation on the other one. There is a clear advantage of both railway and inland navigation transport over road transport, but no clear difference between these two modes (results depend on the characteristics of the specific navigation or railway systems part of the different studies) – despite claims navigation is not better in this field than railway (but railway is more flexible and less vulnerable – consider that river Danube is the only east-west inland navigation axis and thus highly vulnerable to natural or man-made hazards including adversary actions – there is no backup!)

This is the simple approach comparing the energy intensity of one ton-kilometre. In fact we see multimodal logistic chains (as railway and even more so inland navigation rarely have the opportunity to provide source-target connection without the use of other modes (mainly road) that have different transport distances for the same connection that have to be considered as well.

A positive development to a more environmentally friendly modal-split requires priorities in legal framework and budget. If everything is of the same importance nothing is important. Subsidizing road infrastructure on the one hand causes a lot of "induced transport", change of economic structures in unwanted (sometimes wanted?) directions. As road transport is the most competitive due to direct and indirect subsidies and externalised costs, any attempts to improve the situation needs to adjust this framework as well. Internalising of costs and road pricing is required.

I hast o be stated that despite additional capacities and even with very positive assumptions (such as doubling the amount of tonnes transported throughout the year) it is outside the reach of navigation to cause a turnaround in modal-split and shift good-transport from i.e. road to ships. If framework stays unchanged navigation can just compensate or damp little shares of the overall growth of transport.

[3] The specifics of increased sulfuric dioxide emissions as a speciality of maritime and inland navigation need are not reflected in this consideration but need to be considered as well,

(The fact, that all transport modes - including navigation are affected by losses during special periods such as the recent economic crisis that can be considered to be of temporary effect is not contradictional to the conclusion of the paragraph above).

The Rome treaty of 1957 was providing the basis for non-discriminating transport. Whereas it is on the one hand favourable to stop member states from setting up discriminating regulations on the other hand (non-discriminating) restrictions called by environmental protection or fighting climate change (by internalisation of costs) are prohibited by the purely competition-oriented approach.

In this context the following considerations are relevant:

- The balance of regionalized vs. unregionalised economy
- Production focused on-site against extreme “division of labour”, each production step is performed on a different site with lots of subsidized (environmentally negative) transports forward and backward
- The balance of “storage in place” against using “rolling-storage” on the road
- Necessary transports versus goods where it is unfavourable to send them over long-distance transport
- Is the on-kilometres the parameter that counts or the prosperity of transport business as well (does transport cost, and does transport business earn enough money for modernizing fleet etc.?)

Persons transport specifics

Ships:

Planning of inland Navigation that only was focused on the "requirements" of bulk-goods transport ignored in history shall be adapted to "white navigation" as it has been a growing sector throughout the last years and it's needs.

Tourism related navigation needs environment, scenic riverine landscape

Appropriate ship design and speed (The "Fish killer" Twin city liner some of the delegates taking part in the Vienna/Bratislava will face is a negative example in this case)

Other modes:

Railway system needs to be improved and modernized, and accompanied by other means of public transport that provide full-supply rather than the linear transport relations provided by railway.

Railway policy must not be restricted to the construction of railway infrastructure. Service comes first, infrastructure when additional capacities are needed (there are indeed examples for spending lots of money for new or renewed tracks while at the same hand services are cut back).

Electric traction should be fostered, as it is more efficient (even when electricity is generated in power-plants by using fossile fuels)

Transport guarantee in public transport (example Switzerland) is favourable. Having the guarantee to reach any destination within a given range throughout a reasonable time, at predictable intervals and at reasonable prices is one of the key criteria for the overall attractiveness of a public transport system used on a regular basis. Approaches like that should serve as a blueprint for establishing basin-wide environmental benign transport systems.

Make railway more competitive compared to airplane traffic, as the latter is the most polluting, energy consuming and greenhouse-gas related transport mode (related to person-km)

Focus on muscle-powered transport (the most environmentally friendly) as well - make cities, villages, countries, more appropriate for pedestrian and bicycle transport

Information technology, glass-fiber based networks have the potential

- To reduce transport.
- And to bring contributors together virtually - as if they were in the vicinity (video-conferencing) thus fostering cohesion

Energy

As Energy policy is by far more than electricity policy (only approx 20% of final energy use but attracting, energy policy is more than “power plant” policy

Demand side supply side have to be balanced – also in terms of funding.

Raising sectoral Energy efficiency does not always correspond with reduced consumption and emissions (the so called “efficiency”) but can be and frequently is overcompensated by other effects. Thus efficiency can be a good means to support reaching targets related to energy or environmental policies

As Danube River and its tributaries are frequently considered in the context of hydropower it has to be stated, that the river Danube has already seen a compromise, where the potential of generating hydroelectricity is mostly used – taking place on the upper/middle Danube, where the slope is in the more useful and iron gate on the lower Danube. On the lower Danube it has to be taken into account that the reduced slopes ask for increased size of dyked stretches, still resulting in little height differences with the pitfall of deteriorating bank-filtered water as a source of drinking water supply (one of the main reasons why Hungary pulled back from the Nagymaros, Adony and Faisz dam projects in the 1980s). On the upper Danube (above Gönyü) only three free-flowing sections are remaining which are preserved for other requirements, enabling the Danube to fulfill other functions.

Nevertheless new unconventional hydro designs like the "Stromboje" tested promise low impact hydro that does not require dam building and provide electricity on a small –scale even during flood where the conventional big dams have to be taken offline as one of the main preconditions for electricity generation /height difference is lost)- one of the most severe threats to grid-stability risk management has to take into account.

Considerations about generating electricity from hydro from tributaries should - besides compatibility with Natura 2000 and Water Framework Directive - take into account advanced analysis on the energy/electricity system effects of hydropower.

As the Austrian example show (Austria is the country amongst the Danube river-basin countries with the highest share of hydroelectricity in use) even very intensive capacity building [factor of five between 1955 and 1995 throughout the most intensive –and due to lack of potential now unrepeatable- expansion phase] could not prohibit, that dependency from importing electricity, or fossile based primary–energy carriers was increasing, and the energy system has shown a different behaviour than simple substitutional considerations usually take into account)

Flood protection

Wise-use of Danube and its tributaries and their wetlands enable the potential of improving flood-protection level, and adapt to potentially increased frequency and/or intensity of floods. Besides just calculating additional floodplains in square-kilometres the following influencing factors shall be taken into account.

- Loss of protection level due to fine-sediment accumulation. Keeping or re-establishing river banks as natural as possible, and keeping side-arms connected to the river /reconnecting them, fosters sidewards-erosion processes that work against this degrading influence on flood-protection-level
- Groundwater bodies are providing additional capacity for the intake of discharge (especially after low-water-level). These effects are also known as "bank storage effect". These effects shall be taken into account as part

of an integrative planning process. To make further use of these effects, all sealing measures need to be carefully considered and evaluated, and sealing dykes down below the groundwater-horizon must be avoided.

Flood protection is more than just dykes. The cumulative discharge is given by nature, the discharge in m^3/sec and the corresponding water-levels both can be influenced. To raise effectiveness an integrated river-basin wide approach is required, because isolated effects when just considering one section of a river often are considered to be too limited, for being worth the efforts.

SECTION C: PROPOSALS FOR FLAGSHIP PROJECTS

FP "Danube navigation 21"

"Danube navigation 21" addresses a Danube navigation for the 21st century. This means a shift away from outdated and overcome approaches like the one, the 1948 (Belgrade Convention) Danube Commission (DC) has layed-down in the post World-War II area. It does as well not continue attempts to turn Danube into a canal but rather makes use of the fact that the Danube is not. Accepting and understanding hydromorphological characteristics and make advantageous use of it is the key issue of this concept.

1. Carefully evaluate so called "bottlenecks" and real bottlenecks from a broader angle-of view
2. New fairway approach making full "wise-use" of Danube's river-morphology. Adapt the fairway to the "Thalweg", profit from the asymmetric lateral profile of the fairway, that is currently used already by navigators and has potential to increased use (Rivers are no roads, frequency of ships on the Danube allows to organize traffic different from roads and more flexible).
3. Consider the different hydromorphological characteristics of different sections of the Danube rather than setting up "one for all" approaches like DC had done - exacerbated by overstressing limits of statistical hydrological parameters like LNRL
4. Add additional parameters. Besides restricting information to "minimum-depths" referring to the whole width of the fairway, navigators shall be informed about the "(validated) maximum-manoeuvrable depth" calculated for different type of vessels (such as two or four pushed-barge trains)
5. Take care of crossings instead of fighting wars against them – profit from "backwater effects" increasing water levels (and thus depths) that have

their highest impact at low and extreme-low water levels thus improving navigability in those periods characterised by small nautical margins.

6. As the reliability of Danube is and always will remain limited (think of restrictions caused by floods and ice) as well as hydrology-related (discharge) prognosis-range is limited in principle, planning with uncertainty is a "must" when thinking of navigation.

7. The fact that there are principle limits, does not mean that it would not be possible and favourable to extend the range of prognosis as far as possible, setup research and development, and setup a common river basin wide prognosis system.

8. River information services have entered the first of their implementation (such as the Austrian DORIS) can and should be improved with additional data, more accurate rivers profile maps, and the establishment a Danube river navigation control (like control towers on airplane) that help to safely organize and calculate (with support of modern IT) speed setups and passing-by manoeuvres in specified sections

9. Setup a fleet modernization program including new lines of specially designed ship such as proposed within the "Radoicic study" – see: Radoicic D. 2009, *"Environmentally friendly Inland Waterway ship-design for the Danube River"*, University of Belgrade, commissioned by WWF-DCP) http://assets.panda.org/downloads/iww_danube_ship_design___final___december_2009.pdf based on shallow-draught pushboats and container ships. Guarantee that fundings keep a good balance (rather than focussed on increasing navigable depths – i.e.- by dredging- related to statistics of no relevance for practical use).

10. Make use of the pushed-barge concept that is already an adaptation to the specifics of the river Danube. Provide EU-funding for pooling additional barges that easily can be leased at reasonable prices, when needed during low-water level periods.

11. Backup-Railway: Guarantee that a modern railway corridor in some strategic vicinity of the Danube can serve as a backup.

FP "Road pricing"

Setup a rive basin wide electronic road pricing and speed control system, providing additional steps for internalisation of costs, and more efficient way of keeping car-speed within the legal-thresholds – with favourable

FP "Donau March-Thaya- Auen" /Danube Morava Dyje wetlands

The value Danube-Morava-Dyje wetlands is characterised at best by mentioning that they are one of only three trilateral RAMSAR[4] sites worldwide and currently the only one that is officially declared as Trilateral site within the whole RAMSAR convention. Unfortunately this positive development has a downside: This area is part of the so-called "Montreux list" since decades. "Montreux" blacklists the endangered Ramsar-sites, and "Donau-March-Thaya-Auen" are included this list as there are major threats to it's integrity (besides continuous small scale degradations still ongoing) insufficient protection status on the national levels (as the Ramsar convention is some kind of meta-agreement that has no direct effectiveness but rather gives their signatory states the obligation to setup a proper legal framework) and insufficient management capacities to bring effective protection to reality.

This flagship project aims at

1. Adjusting the protection level and management to a level that is adequate, enable Ramsar committee to remove this trilateral site from Montreux list and
2. Make use of the potential and attractiveness a trilateral area of this ecological value has - to setup an environmentally benign, soft, quality tourism and prove that the regions can benefit from an added socio-economic value as well.

[4] International Agreement to protect wetlands of international importance

FP "Vienna-Bratislava"

This concept for a flagship- project has two components:

On the one hand it contains the re-increase river-bed level in Bratislava[5], as the historic attempt to improve flood protection level by massive dredging is seen inappropriate and has caused negative effects on the Austrian stretch of the Danube (the Danube wetlands national park). This would give the opportunity to compensate the historic incision of the river bed in the Austrian section of the Danube east of Vienna caused by backwards erosion

On the other hand it gives the chance for setting-up a joint cross-border initiative to increase flood protection level for Bratislava by different means. In this context it requires evaluation, whether recent spatial planning-concepts such as the "Danube ecocorridor bypass" can be made compatible with the aims of this flagship project. Strong support by Austria and EU could make this task easier to achieve.

All in all this has the potential for a "Win-win situation" and could foster cohesion between Vienna and Bratislava.

[5] As the Gabcikovo-Cunovo-Dam turned this into a river stretch where sedimentation dominates, it does not require special efforts, one just needs to let it happen.

Appendix: Commenting the Resolution of the European Parliament

Referring to Joint Danube Resolution - European Parliament resolution on an European Strategy for the Danube Region further to Question for Oral Answer B7-0240/2009 decided on 21st of January 2010

EU policies can be developed putting focus on cohesion, transport, tourism, agriculture, fishing, economy, energy, environment policies, enlargement and neighbourhood policy. Nature conservation is an issue of the same importance and has to be included in the set of topics

EU Danube Strategy cooperation areas proposed under F :, "transport and energy infrastructure" (This does not necessarily need to be restricted or even focussed on technical infrastructure and the construction of additional but rather including logistics, organizational consideration)

It strictly warned to base new future oriented robust strategies on historic reminiscences on old-fashioned organisations like the Danube commission. This is just the wrong symbolism.
Although the first Danube commission was funded in1856, it is not the same Danube commission that was re-established in the post world war under heavy influence of Stalin-era clearly as a tool of Soviet Union's attempt to control Danube. This third Danube commision (based on the Belgrade Convention) is still residing up to now in Budapest – urgently waiting for a modernization and evaluation of their framework in adaptation to 21st century's needs.
The ICPDR is by far more represent the holistic view a river basin wide approach for a river basin wide strategy needs and should be mentioned in this context.

"Whereas the Danube River has almost become an internal waterway of the European Union following the 2007 enlargement, and the Danube Region may provide a substantial contribution to reflect the changes since that enlargement". So we have to say CHANGE! In that respect and we really mean change.

While health, an recreation are missing in the targets to complement well-being and wealth, sustainable development, job creation, it is questionable whether "security for the area" does overstress what Danube strategy can do for the region.

Whereas the Danube River represents an effective waterway even beyond the Member States and together with Main channel and Rhine River theoretically connects the North Sea with the Black Sea it has to be said that marine navigation is the more advantageous connection for the end-to end (Constanta-Rotterdam relation) in many respects (it is different for Bulgaria Germany connections for instance)

Demands for improvement of the ecological status of the Danube river, which is currently a polluted river, are not sufficient when they just put the focus on reduce pollution and to prevent further releases of oil and other toxic and harmful substances; but also

- **put emphasis on the conservation /restoration of its hydrological and hydromorphological integrity.**
- And including the Danube and its riparian ecosystems as a means to increase climate-change resilience.

Inland navigation is only one of the important services the Danube is providing. Inter-modality with other transport modes along the Danube through the improvement of all infrastructures needs clear priorities on specific modes – making road transport more disadvantageous - (with priority on the better use of existing infrastructure), and by establishing a multi-modal transport system all along the river (mainly being an organizational task) that is compatible with the requirements of significantly cutting greenhouse gas emissions, does include internalisation of costs (e.g. road pricing) to establish fair competition and puts emphasis on broader geographical context rather than a limited focus t on purely technical infrastructure approaches

Highest safety requirements for (a new modern environmentally benign generation of) vessels (fitting to the Danube), immediate banning of all “single-skin” tankers and other (liquid) hazardous waste transporting vessel ,that do not meet modern design and construction standards.

There is no additional potential for hydropower use along the Danube (only three free flowing sections on the upper to middle danube, inproper slope from the middle to lower danube, where water supply is heavily based on bank-filtered water) the potential of alternative aproaches – dam free/"Stromboje" shall be evaluated) preservation and improvement of the Danube water quality in accordance with the water framework directive. On tributaries, all effects on energy economics hydropower construction can have need to be taken account- including the paradox ones.

The inland waterways navigation system shall be considerded as an important but everything else than crucial aspect for the development of transport in the region, while recognising the decrease in inland navigation, mainly due to the strong economic downturn, but more persistent for the inappropriate community wide policy in modal pricing and subsidies and urges the importance of reassessing the and adapting the overall analysis of the true navigability situation, thus avoiding overstressing the dead-end concept of the so called "bottlenecks" and the futile and counter-productive .efforts to remove them. In consequence base future action plans to robust approaches that are taking into account on the practial situation rather than on theoretical purely statistical approaches to the waterway and improving the entire inter-modal transport system along the Danube, while focussing on the combination between improved inland ports and logistics, inland navigation and rail transport and taking into account the additional possibilities of short-distacemarine shipping

"Calls on the Commission to fasten the generalisation of using modern communication and informational technologies and to take all necessary measures in order to achieve as swiftly as possible an efficient unified system of navigation rules on the Danube". Make full use of the potential of river information services beyond the existing implementations!