

Transforming natural rivers into canals without water? The expensive fantasy of inland waterways in Poland

Appeal by non-governmental organisations, scientists and local governments concerning the plans to develop inland water transport on Poland's rivers

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The *“The Polish inland waterway plans for 2016-2020 with perspective to 2030”*, drafted by the Ministry of Maritime Economy and Inland Waterways and adopted by the Council of Ministers of Poland, as well as the **government's grand plans for the development of inland navigation, are entirely unrealistic.**

The plans resemble, probably unintendedly, Soviet Russia's undertakings to divert the Siberian rivers, which have become discredited because of their environmental and social impacts. They also bring back the memories of the Gierek-era love for gigantesque engineering projects, which manifested itself in the plans to build a cascade of barrages on the Vistula in the 1970s.

The inland navigation on the Rheine should by no means serve as a justification or model for us today – it developed in the previous century when attitudes towards protecting biodiversity were completely different, during a different economic era and under different climate conditions. With respect to rivers, we should be particularly careful in following the footsteps of Western countries.

The damage that transforming rivers fully into navigable canals will entail is incommensurate with the promised benefits, which in our view are unlikely to materialise.

This damage would include an increased risk of flooding, more severe impact of droughts, economic losses and a deepening budget deficit, the risk of an unnecessary ‘fight’ over water with the municipal, energy or agriculture sectors, and finally, destruction of Poland's natural environment of pan-European importance.

The questionable benefits actually can actually be reduced to spending tens of billions of zlotys from the taxpayers' pockets on the development of the hydro-engineering sector, which will implement the costly investments leading to the destruction of Poland's environmentally and touristically precious rivers.

Detailed justification

I. The grand plans for the development of inland waterways

1. Water shortages – the prospect of destruction of natural rivers – canals without water

Poland does not have much water. This may sound surprising because for years we've been opening taps and seeing water run, often of increasingly good quality. Yet Poland is a country with one of the lowest water reserves in Europe. The authors of the inland waterways programme know that perfectly well. They have raised the issue on a number of occasions, but in the present case they have been one-sidedly promoting the interests of river transport. If consistently developed, publicly-funded inland navigation may rob other sectors of the water they need and lead to shortages of drinking water in those regions where water is sourced from surface water intakes. We wish to point point to the warming of Poland's climate and its impact on the balance of water available in the economy (*„Wpływ zmian klimatycznych na bilans wodny w dorzeczu Odry i Wisły w kontekście wybranych dziedzin gospodarki”* [*“Impact of climate change on the water balance in the drainage basins of the Odra and Vistula rivers in the context of selected branches of the economy*], dr Sylwester Kraśnicki, 2016; the quotes below in italics come from this study).

According to forecasts, *“the current climate change scenarios for Poland predict a decrease in total runoff of water by around 37% in the next 110 years (the years 2071-2090 as compared to the years 1971-1980). The decrease in total runoff means that Poland's renewable water resources will shrink, and even today they are among the smallest in the European Union per capita ...”*

The largest consumers of water will probably face conflicts over water:

“Production processes, and especially coal-based energy generation, account for the largest portion of water consumption in Poland, followed by municipal water supply and irrigation systems. Coal energy generation is the most susceptible to water shortages and situations such the 2015 drought will be taking place ever more often.”

Thus, a 'war' over water resources may ensue. *“The diminishing surface water resources may lead to conflict situations between farmers and owners of ponds who rely on those resources to irrigate fields and fill the fish ponds.”*

And as the climate continues to warm and droughts occur more frequently, we should expect a massive development of field irrigation systems like the ones in Southern Europe. The risk identified in the title is real – **the rivers may become canals without water**: *“The decreasing resources of ground water call into question the justification for investments in maintaining and further developing the navigability of waterways on the Odra and the*

Vistula. In the upper sections of these rivers the water resources may already prove to be insufficient, and climate change will further exacerbate the situation.”

2. Unrealistic economic and climate effects. No economic justification for the plans.

The authors of the “*The Polish inland waterway plans for 2016-2020 with perspective to 2030*” present a one-sided picture of the benefits, which are supposed to include:

- Increased market-share of inland transport on rivers
- Improved competitiveness of the sea ports located at the river mouths of the Odra and the Vistula as a consequence of increasing the volume of water transport on these rivers
- Economic revitalisation and better conditions for passenger and tourist/recreational river transport
- Better protection against floods
- Generation of renewable energy on the impoundments to be created on rivers.

Those benefits are highly questionable for many reasons, e.g. because, as discussed above, it is very likely that there won't be enough water for such plans of river regulation and river transport, and conflict with other economic needs may occur. This kind of development is not based on sustainable foundations. The plans have been drafted by a single interest group, which paid no attention to other needs of the state, the society or the environment. The authors have failed to notice the natural contradictions. Using the waterways for transport will require storing water in multi-purpose reservoirs in order to feed water into rivers during barge transports in periods of low water levels (a solution seldom applied outside Poland).

From the point of view of flood protection, those reservoirs should be kept empty in the event they have to take in a flood wave. River transport and the generation of electricity in hydro power plants on the new impoundments stand in conflict with the demand for water on the part of conventional power generation, which relies on river water for its technological processes. We witnessed a dramatic demonstration of this last year when the Polish energy sector had to impose power supply limits because of the low water levels in rivers.

In this sense, the development of inland waterways may undermine Poland's energy security.

3. Uncertain transport effects

In 2014 the total amount of domestic cargo transports on Polish rivers was 4.8 million tonnes, according to the Central Statistical Office of Poland (GUS). The share of inland water

cargo transport in total cargo transport had decreased from 0.8% to 0.4% between 2000 and 2014. Inland cargo transport is a dying subsector that is facing a great degree of uncertainty due to climate change. Reviving it at a great cost is pointless.

The government's promises of economic revitalisation and better competitiveness of the sea ports are highly doubtful. In fact, all of the new industry on the Odra and Vistula rivers is located away from the rivers (e.g. the newly built power plant in Opole will not be able to collect coal from barges). Even if some factory in Wrocław wished to transport its goods along the Odra, the cargo would have to be brought to the river by truck first. Re-loading the goods twice makes no sense because it is too expensive and too time-consuming.

The Ministry of Maritime Economy and Inland Waterways maintains that 20 million tonnes of cargo will be carried along the Odra and 7.8 million tonnes along the Vistula by 2020. These numbers are entirely unrealistic. Even if we assume that transporting such volumes of cargo is practicable, it is unclear what sort of cargo could be transported along the Odra and the Vistula. Hopefully not the imported coal, which is much cheaper at the ports than the coal sold by the Polish mines?

From the economic point of view, the volume of around 28 million tonnes of cargo in 2020 can easily be transported by Poland's environmentally friendly, relatively fast, state-owned railways.

In its *Information note on the implementation of the Strategy for the development of transport to 2020 (and perspective to 2030)* published in 2015, the Ministry of Infrastructure and Development presented the structure of cargo transport in Poland. In 2014 the railways accounted for 228 million tonnes of cargo, trucks – for 1548 million tonnes, and inland waterways – for 7.6 million tonnes. In terms of transport activity measured in tonne-kilometres, the role of inland waterways is even more marginal, with inland water transport of cargo accounting for 0.8 billion tkm, the railways – 50 billion tkm, and truck transport – 263 billion tkm in 2014.

The projections concerning the development of rail transport in Poland, presented in the *Strategy for the development of transport to 2020 (and perspective to 2030)* and the *Master Plan for rail transport in Poland to 2030*, in accordance with which investments worth billions of zlotys have been made in the railway sector over many years, predict that the railways' transport activity will double to around 98 billion tkm. That means the volume of rail cargo transports can easily increase by the amounts planned for inland waterways.

All this leads to a very serious question: why should the Polish state (i.e. the Polish taxpayers) create and fund competitors for the Polish railways, which we have been modernising and in which we have been investing billions, and which will have a much greater unused capacity to carry cargo than the plans to turn rivers into canals can achieve?

4. The *The Polish inland waterway plans* envisage huge expenditures from the public purse

In total, these plans are expected to cost 76.8 billion PLN to 2030, including 8.9 billion PLN to 2020. Meanwhile Poland is in debt. Every year we spend huge amounts (more than 33 billion PLN in 2014) on public debt servicing. The government has taken on a number of new commitments, including in the social sphere. **The inland waterways project will bring no social, economic or environmental benefits, apart from channelling massive amounts of funding to a relatively narrow group of hydro engineering design and construction companies.** In that, it resembles the great projects of wetland draining in Poland and in other countries in the 20th century.

The Polish People's Republic spent massive amounts of funding on "drying the wetlands" – a project that was supposed to deliver better yields for farmers, reduce flooding, etc. The effects have been rather sad and nothing like what had been promised, with degraded soils, dried-up land, lower agricultural yields, destroyed natural water retention and irreversible damage to the environment.

This begs the question whether an indebted country facing many urgent social needs shouldn't allocate the tens of billions of zlotys now earmarked for the inland waterways to more pro-developmental purposes?

Has the Council of Ministers even considered these dilemmas?

5. Devastation of river valleys and riverbeds – destruction of habitats and species in Natura 2000 sites

The plans concerning inland waterways do not mention the environmental devastation that will happen to Poland's near-natural rivers and their valleys as they get transformed into navigable canals. **Poland's environmentally unique rivers are admired throughout Europe and are a true treasure, an element of our biodiversity heritage comparable to the castle of Wawel in the sphere of culture.** Most sections of large river valleys in Poland are Natura 2000 sites established to protect European habitats of flora and fauna, including birds. The regulation of the Vistula and the Odra and the construction of the Odra-Vistula waterway will entail enormous destruction of these areas. The projects in question will violate the Habitats and the Birds Directives, which required the EU Member States to bring rivers to "good status" by 2015.

According to scientists, no 'public interest' can ever justify such investments, because there will be no place left for the ecosystems and species associated with river valleys if the *The Polish inland waterway plans* are put into practice.

On 8 June 2016 a group of researchers from the Faculty of Biology of the University of Warsaw wrote the following in an *Open letter to the participants of the Maritime Congress* (quotes

marked hereafter as *Open letter*): *'As a result of the technological interventions needed to ensure the possibility of cargo transport, the natural and near-natural sections of the not yet canalised rivers and their valleys will lose their environmental value and will not be able to provide their ecosystem services at the same level as now. Because of the specific character of the environmental systems of rivers and their valleys, which depends, inter alia, on the geological and hydrological conditions, those losses cannot be compensated'*

Thus, the damage resulting from transforming rivers into canals could not be compensated in any way, and the integrity of Natura 2000 sites could not be preserved.

If the waterways plans go through, we will lose one of Europe's largest riparian forest complexes on the Odra river, two of Europe's last relatively natural large rivers, i.e. the Vistula and the Bug, the uniquely wild Międzyodrze and many other valuable natural sites in which we now take pride.

6. Compromised flood protection because of the inland waterways programme – higher risk of flooding and extra costs

The authors of *The Polish inland waterways plans* make an unjustified claim about the programme leading to *"improved protection against flooding and less potential flood-related damage"*. **In reality, the deep regulation of rivers needed to upgrade them to class IV navigability** (transit depth: 2 m for rivers and 3.5 for canals, breadth: 40 m) **along with the construction of reservoirs needed for navigation will lead to an increased risk and threat of flooding given the inevitable low water periods and increasingly frequent torrential rains.** As mentioned before, ensuring the possibility of inland navigation stands in contradiction to the flood protection function. The authors of the programme cannot credibly tell the people living in the floodplains on the Odra or the Vistula, who have suffered as a result of the floods in the years 1997-2010, that the inland waterways programme will not contribute to a new flooding of their homes and losses of human life and property. In order to try to compensate for this increased risk of flooding the taxpayers would have to pay an enormous extra cost to build flood protection facilities which, according to specialists, is hardly realistic.

Thus, the 78 billion PLN to be spent on the inland navigation programme is not the end of public expenditure. The cost of dealing with the deteriorating levels of protection against flooding will have to be added to this amount.

II. The new World Bank programme - regulation of rivers and destruction of the environment disguised as flood protection

In September 2015, the Polish government signed a loan deal with the World Bank to finance the **ODRA-VISTULA FLOOD MANAGEMENT PROJECT**, an undertaking allegedly serving to improve flood protection on the Odra and Vistula rivers. The project is well in line with the current government's intentions expressed in *"The Polish inland waterway plans for 2016-2020 with perspective to 2030"* and shows no hint of any willingness to distance oneself from the 'legacy' of the current government's predecessors.

The World Bank project was drafted in secret and adopted by the previous government following a very limited public consultation which involved no major non-governmental organisations dealing with water.

Worth more than 1.317 billion US\$, the project will be funded from loans provided by the International Bank for Reconstruction and Development (504 million US\$) and the Council of Europe Development Bank (329 million US\$), as well as a subsidy from the European Union (219 million US\$).*

The undersigned hold a very critical view of the project, which we see as an undertaking to destroy the Odra river and the Vistula tributaries in their current shape at the expense of taxpayers. An interest-bearing loan has been contracted for this purpose, which the taxpayers will have to repay via the government.

We argue that the project and the related expenses are unjustified for the following reasons:

1. The regulation of the Odra and hydro-engineering works on the Vistula will undermine and destroy Natura 2000 habitats and sites

The project poses an unprecedented threat to the ecosystems of the river valleys concerned, which are of unique value for Poland and for Europe. Scientists from the Faculty of Biology of the University of Warsaw wrote:

"If the rivers and their valleys lose the capacity to provide their ecosystem services as a result of the hydro-engineering works undertaken to enable navigation, that will also mean the loss of fauna and flora habitats associated with the river ..." (Open letter)

In the summary of the *"Preliminary assessment of the potential impact of*

- the World Bank "Odra-Wisła" project P147460

- the governments "The Polish inland waterway plans for 2016-2020 with perspective to 2030"

drafted by Klub Przyrodników (Naturalists' Club) we read:

"In the Odra valley, the project will affect an entire chain of protected areas (including 8 Natura 2000 sites and 4 landscape parks), which runs uninterrupted from Malczyce to Szczecin. The project's objective, i.e. concentrating and deepening the Odra riverbed, intended to limit the frequency and reach of flooding, runs counter to aim of preserving the integrity of those areas, where alluvial ecosystems, which depend on such flooding, are protected. Limiting the flooding will have a considerable adverse effect on all the alluvial habitats (especially riparian alluvial forests of willow, alder and ash (91E0), riparian mixed forests of Quercus robur, Ulmus laevis and Ulmus minor (91F0), and alluvial meadows of river valleys of the Cnidion dubii (6440)), and the scope of that impact may extend to all of such habitats in the Odra valley. All along the middle and lower Odra, the activities to be undertaken as part of the project pose a critical risk to habitats on muddy river banks (3270) because the crucial element of those habitats, i.e. the muddy banks themselves, are to be transformed as part of the planned works.

The component concerning the Nysa Kłodzka Valley poses a risk of adverse effects for two Natura 2000 sites but those effects may be regionally significant as they concern unique habitats of crucial importance for the entire region: water courses with the Ranunculion fluitantis (3260) and watercourses with gravel banks (3220), as well as the species: European bullhead Cottus gobio and the brook lamprey Lampetra planeri. However, as no details about the planned activities are available, it is impossible to say if the negative impacts will in fact occur.

The Sandomierz-Tarnobrzeg component may potentially affect the Tarnobrzaska Dolina Wisły Natura 2000 site, although the impact may be avoidable if the works are designed properly.

Because of the absence of specifics and the fact that the project in this part is only a template, the Upper Vistula component must be regarded as potentially threatening to at least 21 Natura 2000 sites, including a substantial part of the following habitats: gravel banks without vegetation (3220), with Myricaria germanica (3230) or with rosemary willow (3240), riverside alder (91E0), or tall herb fringe communities (6430), as well as the populations and habitats of the following species: the yellow-bellied toad Bombina variegata, barbel Barbus carpathicus, European bullhead Cottus gobio and Kessler's gudgeon Gobio kessleri (in the case of the latter, the potential impact will affect the entire Polish population). Without access to details of the investment it is not possible to determine if the potential risk will materialise and to what extent."

2. Ineffective flood protection.

Component 1: Flood Protection of the Middle and Lower Odra, for which 446 million EUR has been allocated, is flood protection in name only.

The justification for some of the expenses is quite absurd, even if it may sound convincing to non-experts. The project text claims that the objective is to rebuild the waterway to class III parameters in order to enable icebreakers to operate on the Lower Odra if there is a need to break ice jams. We consider this to be pseudo-flood protection: the last large winter ice flood took place nearly 70 years ago, and in the context of climate change, the number of days with freezing temperatures is expected to decrease nearly by half within the hundred-year period starting in the 1970s. The experience of winter-anti flood action on other rivers shows that even if the river has been dredged and regulated, icebreakers are not always able to reach the ice jam for other reasons, and finally, there are other, cheaper ways to prevent an ice flood. It is therefore clear that flood protection serves as a pretext here, while the real objective is to spend nearly 450 million EUR from the loan on the construction of a class III waterway. In fact, the authors of the World Bank project make no secret about it. In the text (but not in the title) it is stated that the objective is to upgrade the Odra to class III navigability.

Thus, the project's objective is well in keeping with the *The Polish inland waterway plans*, a document of the Ministry of Maritime Economy and Inland Waterways, which envisages canalization of the Odra and the Vistula. **And it also has similar drawbacks – as the actions envisaged are more likely to contribute to increasing the risk of flooding, rather than protecting people and property against the element.**

Let us once again refer to the opinion of the scientists from the University of Warsaw:

“Non-canalised rivers that have not been cut off from their valleys are crucial for eliminating or reducing the impact of flooding. The riverbeds and adjacent areas absorb water in periods of high water, and vegetation slows down the runoff, thus mitigating the swelling of rivers. This important ecosystem service will in effect be completely eliminated if the river undergoes the hydro-engineering works needed to ensure the navigable depth required for cargo transport. Moreover, adapting the rivers to this kind of navigation will increase the risk of violent flooding. The barrages cannot mitigate that risk in any way because the reservoirs formed on them by definition do not have any significant capacity that could replace the lost soil, riverbed and valley retention in a river transformed to meet the needs of transport.” (Open letter)

3. We are surprised that the World Bank has agreed to finance these investments

It has done so despite the criticism and the multiple negative experiences with regulation and canalisation of rivers in many parts of the world. Undoubtedly the Bank has many experienced experts, and yet it has decided to back a lopsided undertaking by a hydro-engineering lobby which runs counter to the objectives of environmental protection and has nothing to do with a sustainable approach to the complex problematic of Poland's rivers and their various functions.

4. We are surprised by the stance of the EU

The European Union has previously objected to financing regulation and destruction of rivers and streams from the EU funds in the years 2007-2013 and has questioned drainage and hydro-engineering expenses in Poland worth hundreds of millions of Euros. Yet in this case it has pledged a subsidy of 219 million US\$ to support similar projects that will destroy the ecosystems of Poland's rivers. How can the European Commission finance activities which violate the Habitats and Birds Directives and the Water Framework Directive?

We call on the Prime Minister of the Government of Poland, the President of the World Bank, the Governor Council of Europe Development Bank and the President of the European Commission to reconsider their involvement in those environmentally, economically and socially destructive projects.

The undersigned oppose the one-sided, unsustainable activity on Poland's environmentally valuable rivers.

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Local government representatives:

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Sławomir Chmielewski, Mayor, Mogielnica town and commune
Jakub Gołębiewski, Toruń city councillor, "Czas Mieszkańców" Association
Karol Kreft, Reda city councillor, member of the Committee on Land Management and Environmental Protection
Piotr Papis, Mayor, Klwów Commune

** According to figures available as of 30.06.2016, the budget of the entire project, consisting mainly of loans, is US\$ 1317 million, including:*

- *European Commission: US\$ 219 million*
- *International Bank for Reconstruction and Development: US\$ 504 million*
- *Borrower: US\$ 210 million*
- *Council of Europe Development Bank: US\$ 329 million*
- *National Fund for Environmental Protection and Water Management: US\$ 55 million*

Source:

<http://www.worldbank.org/projects/P147460/?lang=en&tab=financial>