

Assumption of state policy concerning inland waterways in Poland

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Abstract

Despite the assumption of government documents to support inland waterways, degradation of the technical condition of waterways and depreciation of fleet ship-owners is actually occurring. At the marginal importance of inland waterway transport policy, the government also shows a negligible share of the transport sector in the use of EU funds. The Sectoral Operational Programme Transport 2004–2006 does not provide for EU funds to co-finance investments for inland waterway transport. Small funds for this purpose were obtained only in the framework of the Operational Programme Infrastructure and Environment 2007–2013. It should be noted, however, that during the control of the Ministry of Transport, Construction and Maritime Economy – in cooperation with the National Water Management – efforts were led to ensure that the new 2014–2020 financial perspective for the tasks related to the improvement of infrastructure of inland water transport were granted before aid. Against the background of European trends in developed countries of the European Union (EU), the Polish inland waterways are not important in the transport of goods, but instead the transport of persons confined to tourism and local – to supplement the motor transport infrastructure (river ferries). For many years Poland has experienced a decrease in both freight and inland waterways, as well as in their participation in all transport modes. The aim of this article is to assess the activities of government administration in the performance of statutory tasks related to the development and operation of inland waterway transport in Poland.

Introduction

Poland is characterized by a relatively high-density network of waterways. In Poland, every 1000 km square there are 11.6 km of navigable waterways, compared to the EU-average of 9.3 km / 1000 km square. Countries with higher density ratios are: The Netherlands (121.6 km), Belgium (50.2 km), Finland (23.7 km), Germany (18.6 km), Hungary (15.5 km) and Luxembourg (14.2 km). Cargo volumes are reflected in the technical condition of the water transport infrastructure subsystem and its role in the transport system within the country. Poland, despite a well-developed network of waterways, has a very low share of cargo river transport in total land freight – approx. 0.1%, while the share of inland waterways in the individual EU countries stands at

34.7% in The Netherlands, 5.8% in Belgium, 12.6% in Bulgaria, 12.3% in Germany.

The use of inland waterways first requires change in the approach of navigation in Poland – to be both innovative and comprehensive. The inclusion of the river in the European system of waterways is a project of the waterway Danube–Odra. The combination of the Baltic and North Sea with the Black Sea and the Mediterranean basin, is the largest marine project in Central Europe. Connecting the above navigation line with the wide path from the far east, it is a project of European importance, because all European countries and non-European countries will use this connection – from Japan, through North Korea and Noon, China, Mongolia, Russia and Ukraine. The time of return rail freight will be reduced by 1/3 compared to the sea route's used today (from about

30 days to 10 days). According to preliminary calculations, it is possible to transport in both directions by rail transport, 750 thousands of containers and other goods annually. Completion of the Odra's railway line, route S3 and the future Odra–Danube channel would make the port in Szczecin and river ports on the Odra River comparable to Hamburg and Rotterdam in terms of tonnage transported (Ogólnopolski Klaster Innowacyjnych Przedsiębiorstw, 2015).

The most significant external conditions of the development of water transport should include the current and future role of inland waterways for European transport policy. Economic development of the European Union, as well as the intensification of economic exchange associated with the enlargement of the EU, caused an increase in demand for transport. Current trends indicate a preference for motor transport, being the fastest and most flexible element, adaptable to changes in transport needs (and directions). Therefore, an uncontrolled development of transport would lead to a significant increase in the workload of the road network, as well as increased pollution and the adverse circumstances to paralysis of communication. This situation points to the need to take measures to reduce further the negative impact of the development of road transport on the environment, among others, by promoting the development of systems more friendly to the environment. These actions are aimed at reconciliation of the above trends with constraints in the development of transport and going beyond transport policy. As stated in "White paper – European transport policy – time decision making" (White Paper. European transport policy for 2010: time to decide. Luxemburg 2001) in new conditions, transport policies should be part of an overall strategy of sustainable development, including, in particular:

- economic policies, in particular the changes in the production process, which determine the volume of demand;
- policy of spatial land development, especially cities, aiming to avoid an excessive growth in the demand for transport;
- social and educational policy, including a better organisation of work and learning to allow restriction of the traffic peaks (e.g. during weekends) (Adamczyk, 2011).

The development of inland water transport

The development of inland water transport can be one of the ways to solve such problems of contemporary transport policy (Wojewódzka-Król, 2006):

- to achieve sustainable transport development;
- meeting the growing demand for transportation in the territorial restrictions which are a barrier to the development of transport infrastructure;
- increasing the availability, in terms of congestion, lack of connections and bottlenecks in the trans-European transport network, which faces financial constraints and barriers on existing zoning.

Water transport is characterized by many features which predispose it to play a much more important role in the transport system of both goods and passengers. Inland waterway transport is one of the cheapest and most environmentally friendly branches because of, inter alia:

- relatively low power consumption;
- low emissions of air pollutants;
- relatively low water pollution;
- the ability to significantly reduce congestion on the roads as a result of the adoption of freight road transport;
- the lowest external costs.

To strengthen the position of inland waterway transport in the system of goods transport requires, first and foremost the introduction of adjustments to new conditions, consisting mainly of the:

- development of combined transports;
- inclusion of inland waterways in the development of coastal transport;
- development of sea-river transport;
- construction of logistics centres in river ports;
- identification of market niches in the new environment, and strengthening the position of this sector in the current application.

The possibility of a solution, or at least alleviation of the fundamental problems of European transport, through the use of inland waterways, is a determinant support for the development of this sector in the European Union. Supporting this manifests itself mainly in:

- the commitment to improving waterway infrastructure;
- creating favourable conditions for the development of reloading ports;
- lower fuel prices for shipping companies;
- other forms of assistance provided to this branch of transport in selected countries.

Meeting future transport needs in an environmentally friendly way will require overcoming current problems of inland water transport, as well as supporting the development and promotion of its advantages as a modern mode of transport. Reasons of such aid for inland waterway transport are primarily:

- the great potential of this branch of transport;
- the lack of effective instruments for the internalisation of external costs, which would effectively compete with other modes of transport;
- inadequate efforts on the development of inland waterways connected with the mistaken belief that the branch will not be able to meet new challenges;
- the need to implement new technologies determining successful integration of the inland water transport to service transportation needs that require coordinated action (Adamczyk, 2011).

The technical condition of inland waterways in Poland

The operating parameters of inland waterways do not meet the requirements set out in the Regulation of the Council of Ministers of 7 May 2002 on the classification of inland waterways. The regulation was decided that for waterways or sections on which there is a variable water level the actual value of the draft of the vessel or pushed convoy, relative to a fixed parameter classification, should not be less than the value of immersion occurring during 240 days, or furthermore, in the multi-year average (multiannual period) (Regulation, 2002, § 4 para. 2). The most important difficulties of shipping are insufficiently deep fairways, the operation of bridge parameters (both road and rail) and the often repeated failure of locks and weirs, as well as long periods of interruption of navigation (due to freezing, and high water).

The existing condition of the waterways was the main reason for not allowing Polish accession to the Agreement on Main International Waterways meanings (AGN), prepared by the Economic Commission for Europe – United Nations on 19 January 1996. The accession of Poland to the AGN agreement was the subject of studies at the turn of 1997–1998. Due to the very high cost of road reconstruction of water – more than 90 billion PLN, the Minister of Finance did not approve the signing of this agreement. Also, the Minister of the Environment refused to sign the Agreement on the grounds of a significant intervention in the river valleys and rivers. It should be mentioned that according to information from MTBiGM, the AGN agreement has not been signed or is not ratified by 21 European countries, including 14 member states of the EU (NIK, 2014).

The government's actions have not led to an inhibition of regression in inland navigation. For years, despite the Government's declaration of an increase

in the importance of inland waterway transport, documents governing the transport policy of the State show that the size of the inland water transport freight, as well as their share of the total freight of all modes of transport are shrinking. The main reason is the progressive degradation of the technical condition of inland waterways. There was no renewal of the fleet for freight inland water transport and furthermore most of the inland waterway fleet is depreciated. It should be noted that the age of the fleet far exceeds the standard period.

The length of the inland waterway network in Poland in 2014 remained at a similar level as in the previous year and amounted to 3655 km, of which 2417 km was regulated river navigable, 644 km – canalised sections of rivers, 336 km – channels and 259 km – lake navigable. The length actually operated by shipping was 3387 km (92.7%) navigable waterways. Adjusting the size of vessels and waterways is the main factor determining the effectiveness of inland waterway transport. Road requirements of international importance (classes IV and V) in 2014 were fulfilled in Poland at 5.9% of the length of waterways (214 km). The share of roads in this class, providing the parameters necessary for modern shipping has not changed since 2007 from the total length of waterways in Poland. The rest of the waterways have regional importance class I, II and III, with a total length in 2014 of 3441 km (94.1% of the total length of waterways) (GUS, 2015).

Table 1 shows operated inland waterways in 2014 in Poland.

Table 1. Operated inland waterways in 2014

Specification	Navigable river regulated	Channelled sections of rivers in kilometres	Channels	Lakes navigable
Total	2174	620	334	259
Regional roads				
Ia	664	101	168	54
Ib	608	137	–	–
II	691	106	106	168
III	115	207	47	28
International roads				
IV	–	14	–	–
Va	–	55	–	–
Vb	97	–	14	10

Inland waterway fleet and transportation

In 2014 the number of fleet in inland waterway transport in Poland (tugs and tugs) totalled 207 units a decrease of 1.0% compared with the previous year. Compared with 2013, this has increased the number

of self-propelled barges – up to 79 pcs. (11.3%) and the number of barges without their own power – up to 504 pcs. (0.8%). While the number of passenger ships decreased – up to 99 pcs. (3.0%). In the structure of generic fleets, barges dominated by the units used in the sets being pushed. For this type of transport in 2014, this represented 86.4% of the total fleet and transported 6166.5 thousand tons of cargo (80.8% of all goods transported by inland waterways). In the group of fleet barge, vessels of smaller design parameters prevailed, which require lower standards of technical infrastructure (GUS, 2015).

Figure 1 shows the structure of barge fleet inland waterway by groups of capacity in 2014.

A large part of the inland waterway fleet depreciated and required restoration as its age far exceeded the standard period of use, and the operation possible due to constant modernization. According to data for 2014, of most operated pushers (74.2%), almost half of the bar to push (48.2%) and all self-propelled barges were produced in the years 1949–1979.

Figure 2 shows age structure of fleet inland waterway in 2014 in Poland.

Inadequate management of navigable roads in Poland, both in terms of character (“Channelized” River, flowing freely, channels) and navigational parameters (dimensions, depth and width of the trail, the height of bridges) affected the specificities of inland waterways and played a marginal role in the Polish transport system. The share of inland

waterway transport in total freight transport in the 2000–2014 period decreased from 0.8% to 0.4%.

In 2014, inland waterways transported 7629 thousand tons of cargo and carried 778.5 million tkm of transport work. In comparison with the previous year this represents an increase of freight expressed in the number of transported tonnes (51.2%), as well as an increase in the size of the transport (1.4%). The largest increase in shipped tonnes of cargo (125.3%), while increasing the size of transport work (21.5%) occurred in the first quarter.

Figure 3 shows transport of goods by inland waterways by quarter.

In 2014, the average distance of transport for 1 ton in international traffic amounted to 253.4 km (in 2013 – 252.6 km), and in domestic transport – 14.5 km (in 2013, 25.6 km). The large average distance in international transport is clear from the dominant share of freight transport on the Western European waterways.

Compared to 2013, there was an increase of domestic carriage by 116.8% to 4833 thousand tonnes (mainly cargo from group aggregates, sand and stone), with an increase in traffic of 22.9% to 70.0 million tkm. Such a significant increase in traffic was associated primarily with the participation of inland waterway transport in the Modernization of Wroclaw Floodway System project.

In 2014, international traffic amounted to 2,796 thousand tons of cargo (0.7% less than in the previous

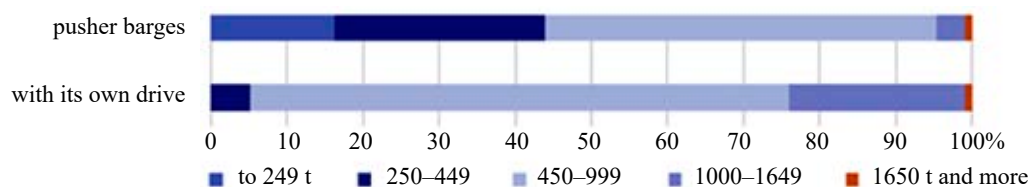


Figure 1. The structure of barge fleet inland waterway by groups of capacity in 2014

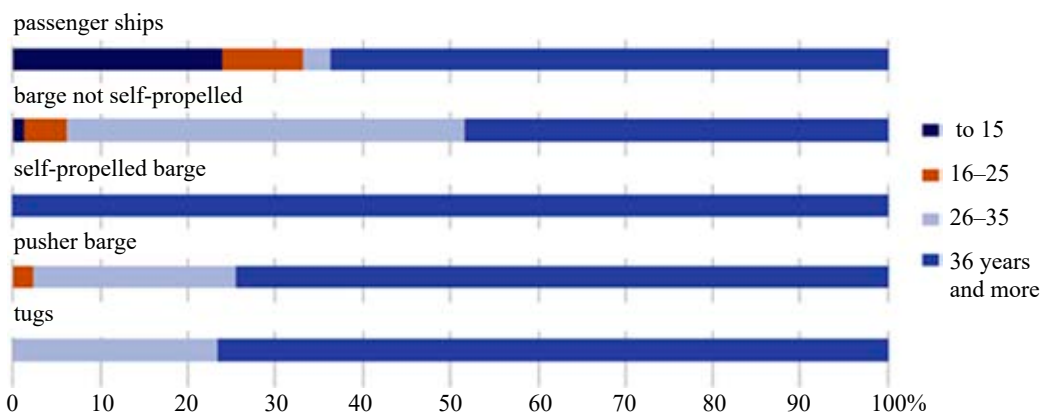


Figure 2. Age structure of fleet inland waterway in 2014

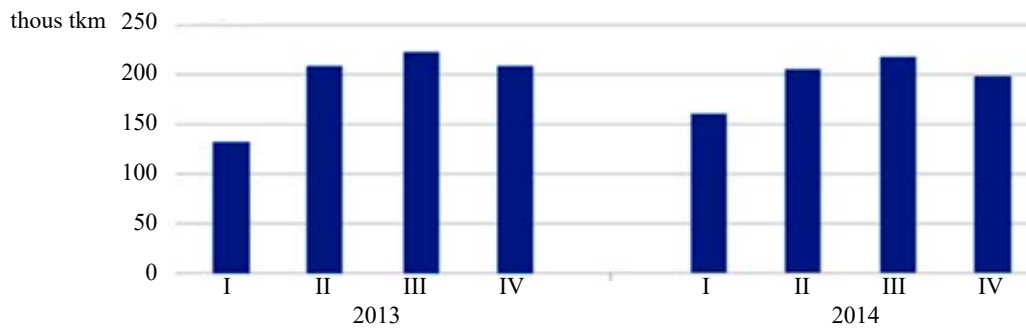


Figure 3. Transport of goods by inland waterways by quarter

year), which accounted for up to 36.6% of all cargo transported by Polish ship-owners. The volume of traffic between foreign ports decreased by 3.9%, and their share in total international traffic transport decreased from 70.2% in 2013 to 67.9% in 2014. Levels of imported cargo were also lower (40.7%), while there has been an increase in freight exports (16.6%). The main direction of export by inland waterways (representing 29.2% of total international transport) was to Germany. The share of transport in this relationship amounted to 92.0% of total exports on the waterway (GUS, 2015).

Conclusions

Inland water transport is seen in Poland, often as a branch, whose development is not important for the Polish transport system. This is because a low share of this branch of transportation needs is wrongly identified as having marginal importance in the transport system. This is at odds with the European policy on the sustainable development of transport. The present idea of shaping the sustainable development of transport assumes comprehensive measures in all areas and transport sectors, not just those which have the dominant approach. Sustainable transport policy in the EU assumes the development of the shipping industry to be environmentally friendly wherever it is possible to reduce the external costs of transport.

The development of inland water transport in the European Union is one of the ways to solve such problems of the modern transport policy to:

- be a sustainable transport development;
- meet the growing demand for transport with territorial disadvantages, which are a barrier to the development of transport infrastructure;
- increase the availability, in terms of congestion, bottlenecks in the trans-European transport network and the lack of connections, whose elimination is associated with financial constraints and barriers in existing zoning.

The internalisation of the external costs of transport would generate considerable advantages to inland waterway transport over the other branches. However until internalisation, this branch, must to rely on various forms of support. Supporting the development of inland water transport in the EU is associated primarily with small harmful effects on the environment. Although not without significance, there also exists advantages to this mode of transport, including in particular:

- a comprehensive nature for the development of waterways to benefit all areas of the economy;
- essentiality to the operation of seaports, creating beneficial connections with the hinterland, and allowing an increased capacity of sea ports.

The development of inland water transport requires many difficulties to be overcome associated with problems of shipping companies, such as a reluctance of potential customers who see it quite traditionally, to recognise the new opportunities and benefits associated with it.

Problems of the development of this branch in Poland are similar to those in other EU countries, but they are of a much larger scale. Unfortunately, this sector has not found a proper place in the current policy of transport development, which has led to a very difficult situation. Inland water transport is a little known branch for potential users.

The role of inland waterways in Poland, as a result of serious irregularities in the process of its development, does not correspond to modern tendencies. Inland waterway transport in relation to the most favourable period fell by more than 10 million tonnes, including national transport by more than three times. Participation of this branch in the seaports service decreased four times, despite the demand for this type of transportation in relation, for example, to Szczecin – Berlin and the fact that Berlin's favourable location in relation to the port gives it an advantage over Hamburg, to which the distance is almost two times greater (Wojewódzka-Król, 2014).

Currently, freight transports greatest challenges concern the modernization of transport infrastructure, rail and inland waterways. The low standard of service stations and underspending of water transport can become very expensive for seaports.

Funds spent on inland waterway transport investment would enable the development of this branch, and also prevent decapitalisation of existing infrastructure. This policy would lead ultimately to an improvement in the condition of waterways, and thus bridge the disparities in the development of inland water transport, rail and road.

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