

CIRCULAR ECONOMY IN THE DEVELOPMENT OF INLAND WATERWAY TRANSPORT (DANUBE RIVER)

Professor Antoaneta Kirova, PhD, Doctor of Economic Sciences, VTU “Todor Kableshkov”

WORKSHOP “CIRCULAR ECONOMY AND INLAND WATER TRANSPORT”, Sixty-fourth session of the Working Party

7 October 2020

THE BLUE DEVELOPMENT CONCEPT

- Dealing with the contribution of the blue economy to achieving the goals of Europe 2020 strategy in terms of smart, sustainable and inclusive growth represents about 5.4 million jobs, generated gross value added of nearly 500 billion euros per year;
- "Blue growth or environmentally sustainable economic growth is an ocean-based strategy for sustaining economic growth and job creation needed to reduce poverty in the face of deteriorating resource constraints and the climate crisis" (World Bank).
- In this sense, there is a difference with "green growth", defined as "economic growth based on the use of natural resources, where pollution and environmental impact are minimized"
- Oceans, seas and rivers are to be included in both concepts for sustainable development

KEY CHALLENGES TO THE SUSTAINABILITY OF BLUE DEVELOPMENT

- Pollution of the water basins, in the form of food waste, lack of sewerage systems, plastic packaging, etc.;
- Impact of climate change, affecting the river levels, bringing forwards floods or water shortage problems;
- **EU Water Framework Directive - Directive 2000/60/EC**, enforced in 2000, establishing a legal framework to protect and enhance the status of aquatic ecosystems, prevent their deterioration, and ensure long-term, sustainable use of water resources. The Directive provides for an innovative approach for water management based on river basins, the natural geographical and hydrological units, and sets specific deadlines for EU Member States, addressing inland surface waters (rivers and lakes), etc.
- **EU Floods Directive - Directive 2007/60/EC**, enforced in 2007, aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.

OPPORTUNITIES TO INCLUDE DANUBE RIVER IN CIRCULAR ECONOMY - PRERQUISITES

- The Danube River Protection Convention was signed in 1994 in Sofia, Bulgaria. 11 states – Austria, Bulgaria, Croatia, Czech Republic, Germany, Slovakia, Hungary, Moldova, Ukraine, Slovenia and EU.
- **An Inland navigation action programme needed**, with focus on consolidating the Inland Waterways Transport (IWT) knowledge network and partnership, organised around the five NAIADES 2 action areas, also taking into account the results of the **NAIADES 2 progress report (adopted 18.09.2018)** and other related activities
- Need of coordination and support actions, ensuring active participation of key industrial stakeholders, the Waterborne Technology Platform, Member States administrations, industry associations and river commissions

THE DANUBE RIVER



DANUBE WATER RESOURCES MANAGEMENT

- This is a central issue for the Region and covers water quality and quantity. Challenges include: reducing organic, nutrient and hazardous substance pollution, as well as removing or adapting to the interruptions of waterways.
- **Recent Conference (September 2020) treated the problems of water quantity issues raised by participants**
- Also, there is a need to invest in waste water treatment plants and modernisation of sewerage system (the problem of wastewater discharge, dumping waste in river waters, lack of water due to drought and among its solutions they see the construction of treatment plants, construction and modernization of sewerage systems, implementation of legislation and thorough verification by the Environmental Protection Inspectorate of sources of river pollution)

TRANSPORT PROBLEMS, DANUBE RIVER AND CIRCULAR ECONOMY

- Reusing rolling stock and infrastructure components
- Recycling of rolling stock and transport infrastructure mobile facilities
- Trend in the transportation process of recycling products on European inland waterways is of general increase, especially on the Danube, as the largest share of waste is assigned mainly in Germany and the Slovak Republic
- The green supply chain management is another possible concept for the integration of the transport sector to the circular economy Inland waterway transport has a key place in the green supply chain, as it is more environmentally friendly and energy efficient in comparison to the road and railway transport

TRANSPORT PROBLEMS, DANUBE RIVER AND CIRCULAR ECONOMY

- The deployment of river information services in the Danube inland waterway transport and their harmonization to the information and communication technologies with the other transport modes is a prerequisite for the integration of IWT to the circular economy.
- Fuel saving
- Renewable energy
- Clean ships (solar-powered ships are used mainly on rivers and canals, but in 2007 an experimental 14-meter catamaran was created to sail from Seville (Spain) to Miami, and later to New York (USA), powered solely by solar energy)
- **A particular focus will be to address the need to decarbonize and improve the environmental performance of inland waterway transport, particularly when operating close to urban areas, as well as on future-proof infrastructure, compatible with digital and automation developments under a changing climate**

DANUBE SKILLS PROJECT

- "Increasing the institutional capacity of navigation on the Danube by stimulating joint transnational competences and skills in the field of education and public development services." Project acronym: "Danube SKILLS", with registration number DTP1-1-044-4.1. (funded by the Danube Transnational Program);
- Main objectives:
 1. Increased institutional capacity in Danube navigation by boosting joint transnational competences and skills in education and public development services
 2. Make public institutions in charge with nautical training and certification fit to implement common European standards;
 3. Make public institutions responsible for Danube navigation development fit to provide services to actively trigger raise of modal share of Green Danube transport and to act as 1-stop-shops for Danube logistics;
 4. Set-up of institutional (= sector-wide) Capacity Building cooperation for improving legal and policy frameworks on nautical qualifications and Danube transport promotion.
- The project consortium includes 22 partners (13 ERDF, 2 IPA, 7 ASPs) from the education and training and the inland waterway transport industry, public authorities, non-government organizations and international associations from Austria, Germany, Slovakia, Hungary, Croatia, Serbia, Bulgaria and Romania as well Associated Strategic Partners (ASPs) from FR, HU, HR, CZ, NL and BE
- New proposal submitted (Horizon 2020), Topic: **Improving impact and broadening stakeholder engagement in support of transport research and innovation** (focus: "Intelligent transport waterborne systems" Center of competence for South East Europe in connection with inland transport infrastructure)

THANK YOU FOR YOUR ATTENTION