

The challenges of climate change for Danube navigation

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Abstract

Sustainability has become a key aspect of the analysis of the development of transport, as indicated by the rising societal demand for the reduction of carbon dioxide emissions, noise and air pollution. Transport is currently undergoing a revolution with a globally transformative impact on shipping. One such sea change is the replacement of conventional internal combustion engines and energy resources. Although the capacity intensity of Danube freight transport has not increased over the last two decades, the reduction of carbon dioxide emissions and congestion on road networks points to growing demand for efficient and competitive inland waterway transport of goods.

Another major challenge is the impact of climate change on Danube navigation. Water level fluctuations are the combined effect of the decreasing amount and extreme distributions of precipitation. The growing frequency of extreme weather events hampers navigation and damages inland waterway navigation infrastructure. Besides waterway development and its adaptation to the changing circumstances, the resolution of this problem requires the introduction of new types of vessels and fleet renewal.

keywords: Danube, Danube navigation, sustainable transport, climate change