EU RECOVERY & RESILIENCE PACKAGE:

THE IWT SECTOR'S INPUT, PRIORITIES AND AMBITION

Inland Waterway Transport is seriously affected by the COVID-19 pandemic. The socio-economic impact of the crisis is vast and will have a long-term impact on the sector. At the same time inland waterway transport is in full transition to attract new market segments, increasing its modal share and adapt to climate change. This requires a lot of flexibility, creativity and financial effort from the sector. Barge owners and -operators, represented in EBU, ESO and cooperating in the EU-IWT- Platform welcome the fact that transport is a key-component of the Recovery-package as described in the European Commission's Recovery Plan[1].

RECOVERY AND DELIVERING THE GREEN DEAL

The IWT sector welcomes the Recovery and Resilience package and supports the aim of a new EU Strategy on Sustainable and Smart Mobility.

The Inland waterway sector is characterised by small and medium sized enterprises using vessels and engines with a long lifespan, for which access to funding is a barrier. Investments in new technology are very high and dedicated funding schemes for barge owners at European level are lacking.

To accelerate the development and deployment of greening solutions in IWT the sector calls for a strong support out of the RECOVERY PLAN. The objective should be to come to a win/win situation in which industry recovery leads to a sustainable development.

This requires a combination of:

- **Tailor made funding** for the large-scale deployment of green technologies for the fleet, alternative fuels and digitalization;
- **Taxation incentives;**
- **Goal based flexible regulatory measures** to stimulate and accelerate the innovation.

ROADMAP GREENING THE IWT SECTOR

The roadmap towards Greening the IWT sector addresses the following aspects:

1. GREENING THE FLEET
2. CLIMATE ADAPTATION & ALTERNATIVE ENERGY SOURCES
3. MODAL SHIFT

[1] COM(2020) 456 final

1. GREENING THE FLEET

Conversion of the IWT fleet to zero emission is a challenging task as inland ships have extremely long lifecycles. Technologies for near zero tank-to-wake emissions are theoretically available but:

- TRLs and costs do not favour short-term mass roll-out for most:
- Ships and their operational profiles will require different solutions, there is no 'one-size-fits-all approach':
- To achieve ambitious emission reduction targets all available means (financial, regulatory, economic) must be deployed. This is especially needed to close the economic gap in the Total Cost of Ownership (TCO) of a vessel using green technologies/fuels compared to the TCO of conventional vessels using fossil fuel.

However, there is a strong potential to reduce air pollutant emissions of inland vessels when equipped with state-of-the-art engines or with the right retrofitting. For example, looking at STAGE V standards for IWA/IWP engines above 300 kW, the performance would mitigate a large amount of emissions already:

- 1.8 gram NOx per kWh (at least 73% reduction)
- 0.01 gram PM per kWh (at least 94% reduction)

NO_x has by far the highest external costs. Currently the NO_x emissions have an external cost of 825 million euro per year. When aiming at the STAGE V emission levels in a first stage towards 2035, the emission reduction is severe. Costs for implementing the STAGE V emission levels in the existing fleet sum up to around 1 billion euro. It therefore can be concluded that from a societal viewpoint, these costs will be earned back within 14 months. As a result, the cost-benefit ratio for providing support measures (e.g. by means of grants) is very high [2].

To enable the transition towards zero-emissions, decarbonisation and resilience of the fleet including adaptation to climate change while guaranteeing competitiveness and safety the IWT sector needs:

1.1. Research & Development

What is needed

1. Adoption of the MOU and SRIA of the WATERBORNE-Partnership and assignment of enough resources to make sure that the set objectives cover sufficiently the needs of IWT and are reached timely. This Partnership co-developed by ETP Waterborne and addresses all matters that are relevant for alternative energy sources;
2. Support of the ETP-ALICE's objective to reach a Zero Emission well integrated transport system of which IWT is an essential part as pointed out by ETP-ALICE.

[2] PROMINENT Project: D 6.8 Roll-out plan for innovative greening technologies and concepts

1.2. Deployment

For the 2035 ambition, the main technology at this stage is the application of combustion (including retrofitting after treatment systems like SCR and DPF). Combined with (blended) renewable biofuels such as HVO, a climate emission reduction can be reached as well. The blending rate of the fuel may increase, and also synthetic fuels made with green electricity (wind, water, solar power) can be applied towards 2050 for cleaner combustion engines.

In the period towards 2035 also pilots can be launched with full zero-emission powertrains, e.g. using battery electric and fuel cell technologies. Especially new vessels could already be made 'plug & play' ready for electric power sources by equipping them with electric motors and energy management systems on board. Towards 2050 the share of full zero-emission powertrains will gradually increase, depending on the business case/total cost of ownership.

In the meantime, power supply and fuel supply should gradually be made greener and more sustainable, decreasing the share of fossil fuels.

Diesel-electric powertrain configurations can be seen as a bridge technology and an enabler for implementation of advanced technologies. The transition towards zero emission engines will happen through increasing electrification of the drive.

A currently study launched by CCNR and its member states will provide more clarity regarding the costs for applying zero emission technologies and with regard to climate emissions. So far it has already been concluded in a number of studies that this transition, together with air pollution mitigation, leads to increased costs without generating sufficient operational advantages to reach any break-even point for the ship-owner/operator.

This can be classified as a market failure, as market forces are not driving greener inland navigation and external costs of air pollution and greenhouse gas emissions are not internalised. Hence, solutions should be found in the field of funding and financing, as societal benefits are enormous to gain.

What is needed

To speed up the deployment to reach the emission reduction goals in the IWT sector it is therefore of highest importance to provide the technical solutions, create and authorize specific aid schemes and fiscal incentives. In concrete terms this means the IWT sector needs

1. **Available and affordable technology to broadly deploy innovation in the sector;**
2. **Flexible goal based regulatory framework avoiding long term permission processes for innovative solutions;**
3. **Tailor made and dedicated funding via an IWT Greening Fund combining national and EU funding schemes for**:
   - Engine renewals;
   - Retrofitting of engines in existing vessels with electric drive or propulsion (to make the energy source exchangeable for future green solutions);
   - Innovative vessel design to reduce energy consumption and to make the fleet resilient towards climate change.

   The IWT Greening Fund **may cover the total costs of the investment in engines and retrofit of engines as well as vessel design improvement measures**.

2. CLIMATE ADAPTATION & ALTERNATIVE ENERGY SOURCES

Power supply and fuel supply should gradually be made greener and more sustainable, decreasing the share of fossil fuels. Already underway to reach a substantial emission reduction by quick-win solutions like biofuels, the IWT sector is depending on the availability and market readiness of alternative fuels on a broad scale to cut its emissions in line with the policy aims of the Green Deal.

What is needed

1. Access to research programs for testing and deploying of alternative fuels;
2. Tax incentives, such as by means of tax exemption for clean fuel and on shore power;
3. Availability and roll out of alternative fuels on the entire system of inland waterways;
4. Technology neutral approach to ensure that the most suitable and promising technologies are deployed in a safe manner;
5. Goal based technical standards to give room for safe testing and application of new technologies, innovation and adaptation to such technologies in consideration of the new long lifetime of vessels and infrastructure;
6. For the IWT sector it is of increasing importance to have suitable green **on-shore power supply** and refuelling infrastructure along the network making use of smart solutions at locks, transhipment sites, berths and ports and project sites both for passenger and freight vessels and dredging and hydraulic engineering vessels ("working vessels").

2. MODAL SHIFT

The IWT sector welcomes the European Commission's Green Deal which aims to reduce transport emissions by shifting a substantial part of the 75 % of the freight carried by road today to inland waterway transport (IWT) and rail. IWT has a huge modal shift potential on the entire European network of waterways and already today has very low CO_2 emissions compared to road.

Shifting higher volumes to inland waterway transport will benefit the entire community and substantially contribute to realise the European Green Deal. The IWT is prepared to take over much higher volumes and to substantially increase its share in the coming years with the above support from the Recovery Package.

A joint effort of Member States, Commission and sector should materialise these benefits not only in providing funds for improving infrastructure but in financing transport operators to create a clear incentive and help solving the occurring market-failure.

3.1. Infrastructure

A well-maintained infrastructure network is crucial for the reliability and increased share of the inland waterway transport sector. In the past years inland waterway infrastructure has been neglected in terms of maintenance, leading to negative effects on the water levels. According to the Midterm progress report of Naiades II, main factors that have negatively affected the performance of inland navigation between 2014-2017 are a.o. that inland waterway infrastructure, including locks, bridges, minimum draught levels and river information systems (RIS) are inadequate.

Annual congestion costs reach 1% EU GDP and the GHG emission share of transport continues to rise instead of decreasing. Inland Waterway Transport can substantially increase its modal share and is an important corner stone to deliver the European Commission's Green Deal.
With over 40,000 km of navigable waterways and 250 inland ports, inland waterway transport carries some 550 million tonnes of goods per year and is of increasing importance in the field of cruising and passenger transport. Societies and major industries in Europe are depending on a seamless supply of their goods via waterways. Contrary to the congested roads, European waterways dispose of free capacity, offering a significant modal shift potential. Fostering clean and reliable transport solutions by waterway transport can enable more economic growth in Europe's waterborne regions and increase prosperity and quality of life.

3.2. Digitalization

Digitalization and automation will have a major impact on inland waterway transport and offer huge possibilities. They have improved door-to-door trips by making them user-centric, adaptive and integrated across modes while respecting data privacy and ensuring cybersecurity. They also optimize safe operation of assets, capacity use of available space and infrastructure, i.e. the whole life cycle management of assets and equipment by constant monitoring, thereby enhancing business and policy decision making.

What is needed

- Funding for deployment of digitalisation on board of vessels as an instrument to support the developments towards smart and sustainable jobs, fleet and infrastructure connected to other transport modes and sectors.

Facilitating an easier and faster shift from road to water has an immediate positive effect on GHG-emissions, even without IWW switching to alternative fuels.

IWT IS KEY TO DELIVER THE EGD

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EBU www.ebu-uenf.org
ESO www.eso-oeb.org
European IWT platform www.inlandwaterwaytransport.eu