**European Commission consultation on EU climate change adaptation strategy**

*EBI response*

European Boating Industry (EBI) supports the development of a new EU strategy for climate change adaptation and calls for it to consider the boating industry and its infrastructure. This should be joined up with the EU Recovery Fund and European Green Deal, as well as the new EU sustainable blue economy strategy through consistent policy and funding support. While adaptation is crucial, the recreational boating industry is also engaging in measures increasing the environmental sustainability of the industry, also in context of a green and digital recovery from COVID-19[1].

Around 48 million EU citizens regularly enjoy boating and water sports, making nautical tourism and recreational boating a highly attractive and popular activity (36 million people are regular boaters). These activities, which include boat owners and regular boaters, as well as tourists and local residents, often share the same infrastructure. Across Europe, there are around 6 million boats of all sizes located in coastal and inland waters. Furthermore, other citizens engage in these activities less frequently, so their impact is even more widespread.

The nautical tourism and recreational boating industry (marinas, boat charter, tour operators, water sports hire, production of boats, equipment, trade, services) is made up of around 32,000 companies, over 95% of which are SMEs. The entire sector employs around 280,000 people with thousands more along the supply chains and in other tourism sectors. There are around 6,000 inland and coastal marinas in Europe. European regions that are coastal, peripheral, islands as well as those with inland waterways and lakes benefit substantially from nautical tourism and recreational boating.

EBI is a supporter of the multi-stakeholder "Navigating a Changing Climate Partnership" that aims to reduce greenhouse gas emissions and shift to low carbon navigation infrastructure, as well as strengthen resilience and improve preparedness to adapt to climate change[2].

## 1. Climate change impact on recreational boating and nautical tourism

The nautical tourism and recreational boating industry rely on a resilient infrastructure and the possibility to go boating in a safe environment. Both will be negatively impacted by climate change. A dedicated approach to adapting infrastructure for coastal, inland waterway and maritime tourism and recreational navigation as a major sector of the blue economy is needed in the new strategy.

All users and operators need to know they are safe when going on the water and marinas, the infrastructure that enables nautical tourism and recreational boating, needs to be adapted to climate

[1] For the EBI position paper "Towards a green, digital and sustainable recovery for the boating and nautical tourism industry", see here http://europeanboatingindustry.eu/newsroom/latest-news/item/328-ebi-position-paper-towards-a-green-digital-and-sustainable-recovery-for-the-boating-and-nautical-tourism-industry

[2] For the "Navigating a Changing Climate Partnership", see here https://navclimate.pianc.org/

change. Inland and coastal marinas are in highly vulnerable locations between land and sea. Other infrastructure, such as locks and inland waterways need to be equally considered and adaptation plans prepared.

Impact will come from higher and fluctuating sea levels, increased storm impacts due to higher sea elevation, increased frequency and intensity of extreme weather, changes to rainfall frequency and impact on flooding, changes in currents, sediment transport patterns, and dredging requirements. Changing wind patterns can also have an impact due to marinas being built according to the prevailing winds at the time. Low water levels on inland waterways as seen over the past years are also a risk for navigation. Some of these impacts will be suffered in different ways by individual facilities, while others will impact infrastructure at a regional level. The business consequences of these impacts will be significant and range from the physical impact, to costs, capital investment, higher insurance premiums, temporary closures, and disruption.

Sea level rise is a critical aspect of climate change for marinas. Its impacts are substantial:

- Infrastructure, operations and systems
- Financing and insurance
- Capital investment
- Flooding of fixed structures and facilities
- Performance of wave protection
- Sediment transport and changes to dredging frequency
- Harbour agitation (including long waves and seiche effects)
- Aids to navigation
- Anchorage areas
- Access areas
- Safety issues (including bridge air clearance)

It should also be considered that almost all marinas are SMEs, usually operated through a concession model, and some in public hands. This reduces the investment potential for long-term improvements and adaptation measures and is especially a problem towards the end of the concession[3]. The investment gap may increase further due to the business impacts resulting from COVID-19. Public support is therefore needed and a dedicated approach to nautical tourism and recreational boating and its infrastructure should be recognised in the EU's climate change adaptation strategy.

## 2. Solutions

A dual approach is needed to implement solutions for all related activities. This requires relevant priority-setting at EU, national and regional level and public funding support. A consistent approach across all EU countries is necessary. This includes a need for standardisation processes across sectors with common protocols and data to understand the bigger picture and recognise wider trends.

Nautical tourism and recreational boating infrastructure should be considered separate to waterborne transport due to significant differences between both sectors in terms of needs, investment capability, and opportunities for multi-purpose projects. The facilities in the nautical tourism and recreational

[3] For more information on the challenges for marina concessions and leases in the context of investment, please find here a policy paper by the International Council of Marine Industry Associations (ICOMIA): https://www.icomia.org/content/icomia-marina-concessionlease-renewal-policy-paper

boating sector can enhance their value through improving direct social, environmental and economic benefits, both direct and indirect in addition to a primary purpose of enabling recreational and/or tourism navigation infrastructure. However, recreation and tourism uses should be considered as ancillary elements in large waterborne transport infrastructure adaptation investments, in a way similar to environmental restoration or other social and economic goals.

Below are some proposed suggestions for climate change adaptation solutions for recreational boating and nautical tourism.

Adapting infrastructure

The resilience of nautical tourism and recreational boating infrastructure needs to be increased, which requires public investment support for the relevant infrastructure. Infrastructure adaptation should be evaluated at the system and individual facility levels. Coordination at regional and national level should be encouraged. Furthermore, best practices should be developed and exchanged, including through EU projects to increase understanding, develop pilot projects and best practices. Measurement of the impact of climate change on nautical tourism and recreational boating, as well as current state of adaptation, needs to also be included in monitoring and evaluation systems.

In the case of individual facilities, measures can consist of investment in stormwater management, adaptation to sea level rise and new elevations in freshwater bodies, wave protection upgrades, buildings, infrastructure, floating docks, and shoreline protection. Multiple-purpose investment or mixed-use projects should be considered (e.g. infrastructure to be used as seasonal marinas and as waterfront protection infrastructure).

Each facility requires a dedicated assessment and if necessary, a plan for timely upgrades and renovation. New guidelines and requirements are also needed to inform the planning and design of new facilities, renovations, expansions, and redevelopments. Greater incentives should be provided to appropriate siting, design measures and construction materials that take into account future climate change conditions and more extreme weather events. Furthermore, at a regional or national level, proposed solutions could be prioritised according to the magnitude of the effects of climate change on infrastructure and the risk to residents and businesses. It could be appropriate to identify the impacts from climate change for each facility, on different time scales and different climate scenarios

Likewise, new marina projects or marinas going through a new concession tender process should include a specific section with measures related to climate change adaptation and prevention listed. This would encourage investment in climate change related measures.

Interaction with environmental transformation of marinas

While this contribution primarily examines the impact of climate change on boating and infrastructure, climate adaptation investment should also consider climate mitigation, environmental and sustainability goals that are a priority for the industry.

Incentives for marinas to promote and implement sustainable initiatives should be developed to reduce their carbon footprint. These should be joined up with public investment support at regional, national and EU level to promote and support the changes. In the case of marinas, this consists of investment support for renovation and environmental transformation through renewable energy installations (such as wind, tidal, solar) to provide for electricity needs of marinas and charging of increasing number of electric boats, car parks and shore power. Furthermore, a circular approach to waste disposal and plastic, and the use of water through small-scale local desalination plants should be supported.

Smart investment in infrastructure should be used as an opportunity to improve the environment in general, such as enhancement of environmental protection areas, habitat protection and carbon sequestration projects. Sustainable expansion of infrastructure will need to be prioritised where possible. Where further expansion is needed to take into account changing usage patterns, solutions that reduce the ecological footprint should be promoted and supported.

The locations of marinas can also be used as designated sites for proactive monitoring to study sea level changes, sea temperature, swell and other important aspects for meteorology, climate, and marine science. This could be done by local universities that could partner across Europe and create a network.

Supporting users

To ensure a safe experience for all users, it is essential to ensure that they have the most up-to-date and best information available regarding weather forecasts. This, provided by meteorological offices and others, should make use of innovative and digital technology where possible and other means for boating further away from the shore. This requires better digitalisation of marinas, boats and support for research and development in these areas. Better access and understanding of predictive numerical models are also needed to address short and long-term effects. Marina owners and operators will benefit from tools to manage day-to-day operations and safety, as well as by an improved understanding of how different climate scenarios may affect infrastructure and future use patterns.

This could furthermore be supported through a 'Blue Guide' of marinas and harbours that are safe in case of storms, floods or other environment disasters. This would help users identify safe locations, as well as support operators through a positive impact on insurance costs. It would also incentivise investment. This could be developed with EU support and the guide developed with relevant associations, academia and existing certification schemes.

**Developed with input from**

ICOMIA Marinas Group[4]

PIANC Recreational Navigation Commission[5]

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[4] ICOMIA is the International Council of Marine Industry Associations. For more information on the ICOMIA Marinas Group, please see here: https://www.icomia.org/marinas-group-img

[5] PIANC is the World Association for Waterborne Transport Infrastructure. For more information on the PIANC Recreational Commission, please see: https://www.pianc.org/commissions-and-working-groups/recreational-navigation-commission