{rokbox title=|Conceptual figure on potential for resources, ecosystems and economic resilience :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-ten-lessons-resilience-eu-common-fisheries-policy-towards-climate-change-and-fuel-efficiency-bastardie-et-al-2022-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-ten-lessons-resilience-eu-common-fisheries-policy-towards-climate-change-and-fuel-efficiency-bastardie-et-al-2022.jpg{/rokbox}

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Ten lessons on the resilience of the EU common fisheries policy towards climate change and fuel efficiency - A call for adaptive, flexible and well-informed fisheries management.

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Abstract: To effectively future-proof the management of the European Union fishing fleets we have explored a suite of case studies encompassing the northeast and tropical Atlantic, the Mediterranean, Baltic and Black Seas. This study shows that European Union (EU) fisheries are likely resilient to climate-driven short-term stresses, but may be negatively impacted by long-term trends in climate change. However, fisheries' long-term stock resilience can be improved (and therefore be more resilient to increasing changes in climate) by adopting robust and adaptive fisheries management, provided such measures are based on sound scientific advice which includes uncertainty. Such management requires regular updates of biological reference points. Such updates will delineate safe biological limits for exploitation, providing both high long-term yields with reduced risk of stock collapse when affected by short-term stresses, and enhanced compliance with advice to avoid higher than intended fishing mortality. However, high resilience of the exploited ecosystem does not necessarily lead to the resilience of the economy of EU fisheries from suffering shocks associated with reduced yields, neither to a reduced carbon footprint if fuel use increases from lower stock abundances. Fuel consumption is impacted by stock development, but also by changes in vessel and gear technologies, as well as fishing techniques. In this respect, energy-efficient fishing technologies already exist within the EU, though implementing them would require improving the uptake of innovations and demonstrating to stakeholders the potential for both reduced fuel costs and increased catch rates. A transition towards reducing fuel consumption and costs would need to

be supported by the setup of EU regulatory instruments. Overall, to effectively manage EU fisheries within a changing climate, flexible, adaptive, well-informed and well-enforced management is needed, with incentives provided for innovations and ocean literacy to cope with the changing conditions, while also reducing the dependency of the capture fishing industry on fossil fuels. To support such management, we provide 10 lessons to characterize ‘win-win’ fishing strategies for the European Union, which develop leverages in which fishing effort deployed corresponds to Maximum Sustainable Yield targets and Common Fisheries Policy minimal effects objectives. In these strategies, higher catch is obtained in the long run, less fuel is spent to attain the catch, and the fisheries have a higher resistance and resilience to shock and long-term factors to face climate-induced stresses.

Keywords: blue economy, decarbonization, fisheries economics, fisheries management, resilience, climate change, EU green deal