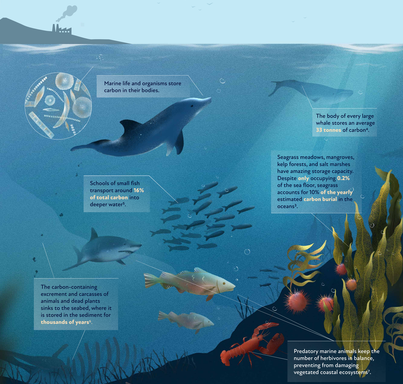
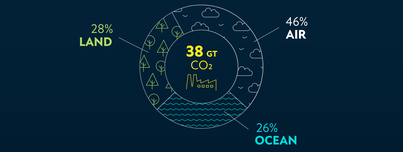
BOTTOM-TRAWLING FUELS CLIMATE CHANGE AND HINDERS THE OCEAN'S CAPACITY TO CAPTURE AND STORE CARBON

The carbon cycle and the ocean's role in mitigating climate change

- The ocean absorbs an average of one million tonnes of CO_2 per hour[1]
- The ocean removes one-quarter of the CO_2 emitted by anthropogenic activity[2]

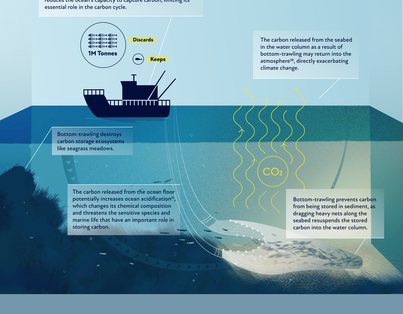


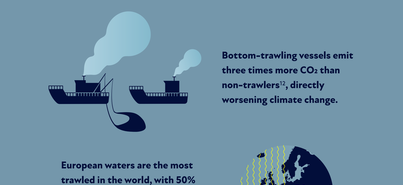
The marine carbon cycle and its interconnections make the ocean one of our largest natural carbon sinks. Humans emit 38 GT of CO_2 each year, of which 46% remains in the air, 26% is sequestered by the ocean, and 28% is captured by the land[8]



Bottom-trawling impacts the climate

Bottom-trawling is the most unselective fishing gear and kills a considerable number of organisms as bycatch every year, accounting for **9.3% of EU discards[9]**. Killing marine life reduces the ocean's capacity to capture carbon, limiting its essential role in the carbon cycle.





Bottom-trawling vessels emit three times more CO_2 than non-trawlers[12], directly worsening climate change.

European waters are the most trawled in the world, with 50% regularly impacted compared to a global average of 14% [13].

Scientists recommend prioritising conservation measures in the EU, particularly in the North-East Atlantic, due to its high carbon-sinking capacity[14].

Policy solutions to achieve the ocean's climate mitigation potential

- **Phase out bottom-trawling, starting with an immediate ban in EU coastal areas and Marine Protected Areas.**
- **Eliminate bycatch of sensitive species.**
- **Develop an Ecosystem and Climate Impact Assessment process for all EU fisheries and fleets, to ensure that annual setting of fishing opportunities incorporates climate and ecosystem considerations.**
- **Evaluate the impact of fishing activity on the carbon sequestration potential of fish populations and seabed/habitats, and identify low and high greenhouse gas-emitting parts of the fleet.**
- **Allocate quota to fleet segments that have no impact on the seabed, avoid bycatch of sensitive species, are low carbon emitters and provide most social benefits: the small-scale low-impact fleet.**
- **Where the use of gears cannot be low impact, eliminate overcapacity using environmental and social criteria, ensuring that only the most sustainable vessels remain in the fleet.**
- **Phase-out fuel tax exemptions and other harmful subsidies.**
- **Redirect subsidies to training/education programmes promoting low-impact fisheries or diversification schemes.**

2022 | Illustration: Marina Astudillo

[1] Feely et al., 2008
[2] Friedlingstein et al., 2021
[3] Fourqurean et al., 2012
[4] Chami et al., 2019
[5] Saba et al., 2021
[6] Arwood et al., 2020
[7] Arwood et al., 2020
[8] Friedlingstein et al., 2021, Arwood et al., 2015
[9] 2015–2019 catch-composition dataset (STECF 2020)
[10] Cavan & Hill, 2021, Hilmi et al. 2021, Sala et al. 2021
[11] Epstein et al., 2022
[12] Clark & Tilman, 2017
[13] Amoroso et al. 2018
[14] Cavan & Hill, 2021

Full sources at:

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