

SEAFOOD & CLIMATE

THERE IS GREAT ATTENTION ON THE RELATIONSHIP BETWEEN FOOD AND CLIMATE CHANGE - SEAFOOD IS NO EXCEPTION. READ ON TO DISCOVER MORE!

SEAFOOD: THE BLUE FOOD

BLUE CARBON

Blue carbon is carbon absorbed and stored by marine organisms and habitats.

- Carbon sinks storing blue carbon can be biological or geological:
 - Biological examples - fish, seaweed, seagrass, krill.
 - Geological examples - gravel, sand, mud.
- Ecosystems must be healthy to act as an effective carbon sink.
- Certain activities (e.g. capture methods that disturb the seabed and overexploitation of fish) can reduce the ocean's ability to store blue carbon.

BLUE CARBON RELEASE FROM MARINE ECOSYSTEMS THROUGH FISHING ACTIVITIES.



↑ CO₂ ↑

CARBON EMISSIONS

- Fuel consumption of vessels is a significant factor in determining the emissions associated with wild capture fisheries.
 - E.g. bottom trawlers vs. purse seiners - trawling requires more fuel and so leads to almost 3 times the emissions.
- Amount and type of feed determines the carbon emissions of fish farms.
 - Feed ingredients have varying carbon footprints.
 - E.g. rice vs. seaweed - growing rice produces methane emissions whilst seaweed absorbs CO₂ as it grows.

EFFICIENCY

Emissions per kg of protein produced also impacts farms' and fisheries' carbon footprints.

- Emissions per kg of protein produced are greater if the same amount of fuel is used to catch less fish.
- Fisheries targeting large schools of fish (e.g. sardines) can be less fuel intensive as they can have a larger total catch by weight per trip.
- If boats need to travel further, e.g. to international waters, this also increases the carbon footprint of a fishery.

DID YOU KNOW?

On average, seafood can provide a lower carbon emission source of animal protein.



THIS PROJECT
IS CO-FUNDED
BY THE
EUROPEAN UNION



CLIMATE CHANGE

CLIMATE CHANGE WILL IMPACT SEAFOOD PRODUCTION AND THE 800 MILLION PEOPLE WHO RELY ON FISH FOR FOOD AND INCOME.

NEGATIVE CONSEQUENCES

- **Warming water** is causing marine species to shift towards the cooler poles as they move to follow their optimal temperature.
 - This shift in distribution could reduce annual catch in developing countries by 50%.
- **Rising sea levels** are leading to land loss.
 - This loss of land will impact coastal fishing and farming communities, e.g. fish farms and rice paddy fields may become flooded with seawater.
 - Sea levels in the Western Pacific have risen 3 times faster than the global average.
- **Changing and intensifying wind systems and ocean currents** are causing more frequent storms.
 - These storms will make fishing operations less safe and effective, impacting fishers' livelihoods.
- Reductions in catch caused by climate change could cause small island states and developing countries (e.g. Cook Islands, Maldives) to lose up to 70% of their revenue.

IF WE DO NOT WORK TO FIGHT CLIMATE CHANGE, WE COULD SEE A **40% REDUCTION** IN THE AMOUNT OF FISH IN TROPICAL REGIONS BY 2100.

Marine species are shifting towards the cooler poles



DID YOU KNOW?

The ocean has absorbed 93% of the extra energy from the enhanced greenhouse effect, with warming now being observed at depths of 1,000m.

For more information head to wwwf.org.uk/sustainable-seafood

Information correct at time of publishing (August 2021)