

EMISSIONS FROM SEAFOOD

Seafood from fisheries range from very low, at less than 1 kg CO₂-eq (CO₂-eq) per edible kg of food, the same as from vegetarian foods such as pulses, up to a very high 86 kg CO₂-eq per kg food.

North East Atlantic Mackerel⁴; Baltic herring⁵ and Spanish mussels⁶ all produce only 1 kg CO₂-eq per edible kg of food – similar to that from pulses.


At the other end of the scale trawled Norwegian lobster⁷ produce 86 kg CO₂-eq per kg of food.

There are big differences depending on the type of fishing with North East-Atlantic Mackerel caught by the Basque ring netting fleet produce only 1 kg CO₂-eq per kg of food but that caught by the Galician bottom trawl fleet produces 6 kg CO₂-eq⁴.

FISH CAN OFFER A MORE SUSTAINABLE DIETARY CHOICE

Fewer methane emissions from fish – a major environmental impact of livestock farming.

Feed conversion ratios (the amount of food eaten by an animal relative to the amount of food produced by the animal) are better for fish. Fish are cold blooded so don't use energy maintaining body temperature and are supported in water, so the fish use less energy moving and staying upright.

 Fish don't use valuable arable land 

SPECIFIC FISH

At SPECIFIC our salmon is farmed



Our caught fish is mostly midwater trawled Herring and Blue whiting and ring net caught Atlantic Sardine

All of our fish in our dry diets come from sources certified as sustainable



1 Nijdam, D., Rood, G., Westhoek, H. (2012). The price of protein: Review of land use and carbon footprints from life cycle assessments of animal food products and their substitutes. *Food Policy*, 37, 760–770. 10.1016/j.foodpol.2012.08.002.

2 Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science* 360 (6392), 987–992.

3 FAO. (2011). The state of the world's land and water resources for food and agriculture (SOLAW) – Managing systems at risk. Food and Agriculture Organization of the United Nations, Rome and Earthscan, London.

4 Ramos, S., Vázquez-Rowe, I., Artetxe, I., Moreira, M.T., Feijoo, G., Zufia, J. (2011). Environmental assessment of the Atlantic mackerel (*Scomber scombrus*) season in the Basque Country: increasing the timeline delimitation in fishery LCA studies. *International Journal of Life Cycle Assessment* 16, 599–610.

5 Silvenius, F., Grönroos, J. (2003). Fish Farming and the Environment: Results of Inventory Analysis. Finnish Environment Institute, Helsinki

6 Iribarren, D., Vázquez-Rowe, I., Hospido, A., Moreira, M.T., Feijoo, G. (2010) b. Estimation of the carbon footprint of the Galician fishing activity (NW Spain). *Science of the Total Environment* 408, 5284–5294.

7 Ziegler, F., Valentinsson, D. (2008). Environmental life cycle assessment of Norway lobster (*Nephrops norvegicus*) caught along the Swedish west coast by creels and conventional trawls – LCA methodology with case study. *International Journal of Life Cycle Assessment* 13, 487–497.

8 Seafood emissions tool <http://seafoodco2.dal.ca/>

CIRCLE OF GOOD HOLISTIC NUTRITION FROM SUSTAINABLE SOURCES

SPECIFIC is committed to a philosophy that we call the Circle of Good.



At SPECIFIC our goal is to provide high quality nutrition for cats and dogs - life stage diets, for healthy cats and dogs, designed to meet the specific needs of different ages, and special care diets designed to provide nutritional support for a wide range of veterinary conditions.

We are committed to delivering this quality nutrition in as sustainable way as possible.

- All of the fish in our dry diets now comes from sources accredited as sustainable
- Our fish are caught with the more sustainable midwater trawl and ring netting fishing systems
- The majority of our cartons are FSC certified and we have a project in place to move the remainder over soon
- 2,500 m² of solar panels on our European factory saves 25 tons of CO₂ per year
- Packaging changes made in 2018 and 2020 reduced plastic usage by 18 tons a year



SPECIFIC

Superior nutrition from the veterinary experts

SUSTAINABILITY OF FOODS

SUSTAINABILITY OF FOODS

Global agriculture feeds over 7 billion people, but with major environmental impacts



Food accounts for over a quarter of global greenhouse gas emissions²



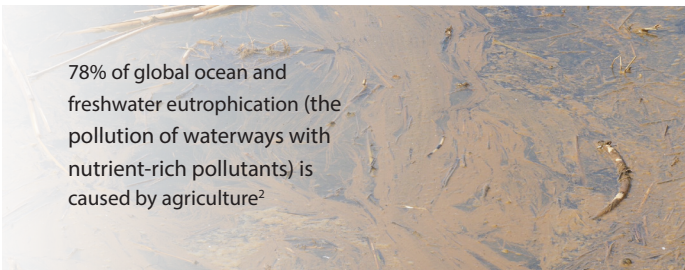
Half of the world's habitable land is used for agriculture



70% of global freshwater withdrawals are used for agriculture³



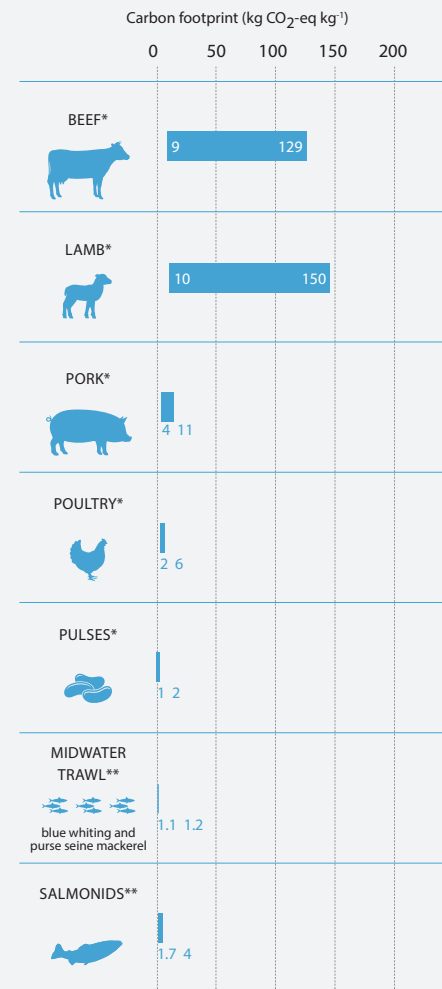
78% of global ocean and freshwater eutrophication (the pollution of waterways with nutrient-rich pollutants) is caused by agriculture²



SUSTAINABILITY OF FOODS

Different sources of protein have different environmental impact with the carbon footprint of the worst being up to 100 times larger than the best

- Ruminant meat has the highest impact
- Pork has mid-range impacts
- Vegetal products, certain seafood, and poultry all have smaller carbon impact



*1 Nijdam et al (2012)

**8 Sea food carbon emissions tool

IMPACTS OF FOOD PRODUCTION

Agriculture and fisheries emissions come from:

- Methane from enteric fermentation
- Nitrous oxide from feed production
- Emissions from manure management
- Changes in soil organic carbon and the consequential emissions of CO₂
- Fossil fuel and electricity usage



THE METHOD OF FISHING IS IMPORTANT

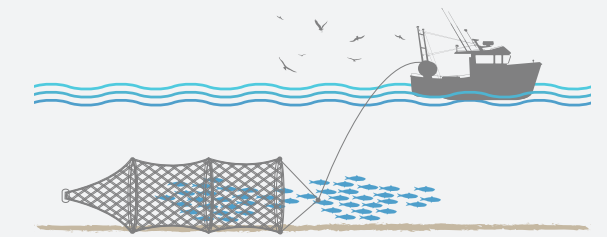
The most sustainable forms of seafood have an environmental impact equivalent to the lowest emitting foods – the worst seafood has emission the same as the highest emitting foods.



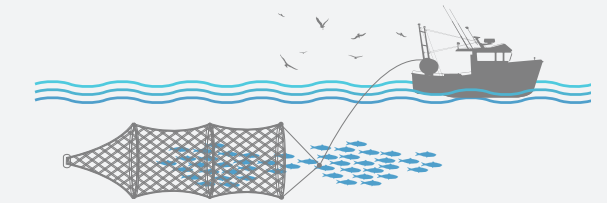
90% of emissions from seafood come from marine fuel and the type of fishing has a huge impact on emissions



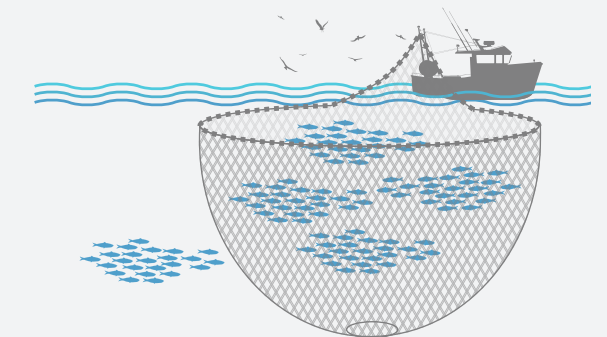
STYLES OF FISHING



Bottom trawling, tows a net along the sea floor and is used to catch bottom-living fish such as cod, squid, shrimp, and rockfish. This method uses more fuel and causes seabed damage



Midwater trawling pulls a net higher in the water than the bottom of the ocean and is used to catch pelagic fish such as anchovies, and mackerel. This style of fishing uses much less fuel



Ring netting (also known as purse seine netting) uses a net to encircle a shoal of fish forming a deep curtain of net which is suspended vertically through the water. The net is then drawn in to land the fish. Fuel use is low, as the net is not towed through the water, and by catch minimised as if the wrong species is in the net then whole catch is released unharmed before it is landed.