



Our Fish

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**WHY ELIMINATING  
FUEL SUBSIDIES  
FROM EU FISHERIES  
IS GOOD FOR  
PUBLIC FINANCES,  
THE MARINE  
ENVIRONMENT,  
AND THE CLIMATE**

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# BACKGROUND

Fisheries subsidies are a major concern for the conservation and management of marine ecosystems and fisheries. Certain types of fisheries subsidies have been shown to distort markets,<sup>1</sup> contribute to unfair trade practices,<sup>2</sup> hinder international cooperation,<sup>3</sup> increase CO<sub>2</sub> emissions,<sup>4</sup> and drive illegal and unsustainable fishing.<sup>5,6</sup> Indeed, there is broad scientific consensus that international rules on the provision of fisheries subsidies are necessary to help safeguard our environment and to achieve sustainable fisheries.<sup>7</sup>

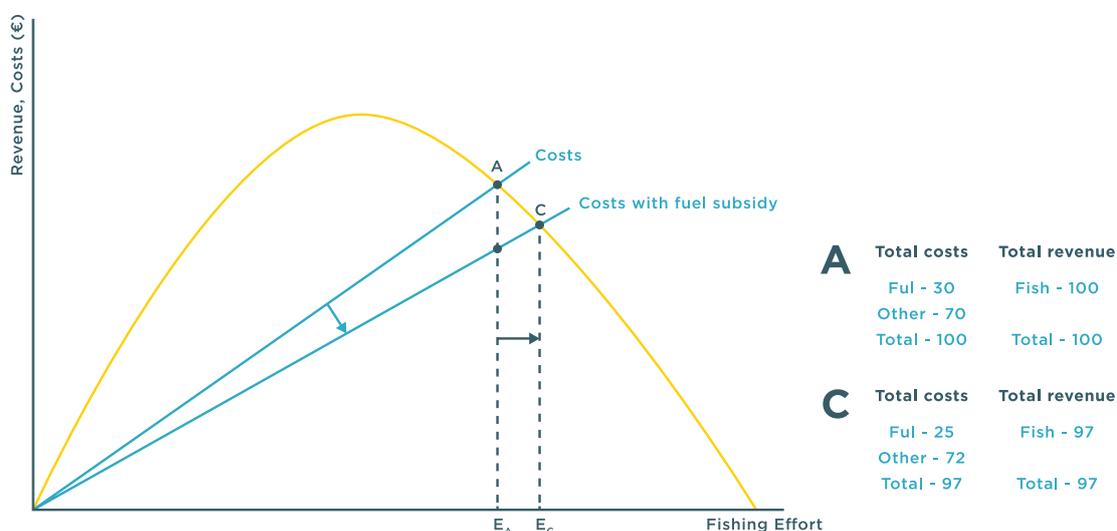
In 2001, the World Trade Organization (WTO) began negotiations to “strengthen disciplines” on fisheries subsidies. In 2015, the United Nations’ Sustainable Development Goals called for a prohibition on fisheries subsidies that contribute to overcapacity, overfishing, and illegal, unregulated and unreported (IUU) fishing. And in 2019, the European Green Deal targeted a “transition to a modern, resource-efficient and competitive economy with no net emissions of greenhouse gases by 2050”, thus, requiring effective carbon pricing and the removal of fossil fuel subsidies.

However, despite decades of negotiations and international commitments, rules on fisheries subsidies have yet to be agreed, while their provision increases. In 2018, the fishing subsidies of European Union (EU) governments totalled €3.2 billion, with fuel subsidies forming a significant share (21%).<sup>8</sup>

## WHAT ARE FUEL SUBSIDIES AND HOW ARE THEY HARMFUL?

According to the WTO Agreement on Subsidies and Countervailing Measures, to which EU Member States (MS) are signatories, a subsidy is any financial contribution from a public body to the private sector. This includes direct transfers of funds (e.g. grants and loans) as well as indirect financial contributions such as the provision of goods and services or where government revenue is foregone (e.g. tax concessions). This agreement therefore recognises **two forms of fuel subsidy: government payments that directly subsidise the cost of fuel and indirect fuel subsidies in the form of exemptions or concessions from normal rates of fuel tax.**

For the fishing sector, where there is a finite resource to sustain, fuel subsidies are uniquely harmful. As the main function of fuel subsidies is to lower production costs, increased production is incentivised, which in fisheries translates into increased fishing effort, exacerbated overfishing, and lower economic output for the sector. By subsidising production, fuel subsidies allow fishers to operate outside of the usual bio-economic constraints (Fig.1).<sup>9</sup>



**Figure 1: The impact of fuel subsidies on fishing effort in a standard bio-economic model.**

Note: Costs and revenue lead to an equilibrium level of effort at point A (E<sub>A</sub>), whereas the provision of fuel subsidies leads to higher short-term profitability, inducing further effort to a higher equilibrium at point C (E<sub>C</sub>).

The decision by fishers to increase their fishing effort (e.g. by making an extra fishing trip) is based on trip costs – including fuel prices – and potential revenues. Exactly what contributes to the price of fuel is irrelevant to this decision-making. Fishers are indifferent to the composition of fuel prices they pay (e.g. extraction, transport, taxes) or how the price paid relates to the world market price. For a business, the marginal costs and marginal revenues are all that matters. When the fuel price is higher, fishing trips become less profitable, and fishing effort decreases. When the fuel price is lower, fishing trips become more profitable, and fishing effort increases.

Some fisheries management measures, particularly the use of fishing limits such as total allowable catches (TACs), can mitigate the incentive to increase fishing effort in the presence of fuel subsidies. However, while the incentive is mitigated, it is not eliminated.

1. TACs only cover about half of EU landings – 61% of landed weight and 41% of landed value – and fuel subsidies are provided to all fisheries without distinction.<sup>10</sup> Even in fisheries where target species are managed by TACs, there are often non-target species caught as by-catch that are not managed by TACs.
2. While TACs theoretically limit fishing effort, they often exceed sustainable levels:<sup>11</sup> Part of the reason for this relates to the economics of fishing trips as fishing organisations lobby to increase TACs above scientific advice<sup>12</sup> when their members perceive it as in their financial interest to increase their catches, such as when fishing trips above the TAC continue to be profitable.<sup>13</sup>
3. TACs are not always respected: illegal, unreported and regulated (IUU) fishing continues in the EU, for example through the discarding of fish at sea.<sup>14</sup> As the OECD explains in their analysis of fisheries subsidies, “fishers will add IUU effort to the point where the additional profits from doing so equal the expected fine they face”.<sup>15</sup> As a result, OECD modelling finds that even with a TAC in place fuel subsidies will reduce fish stocks (with the reduction approximately one-third as severe compared to an open-access fishery without TACs).<sup>16</sup>

Increasing fishing effort and overfishing is a major environmental harm caused by fuel subsidies in marine fisheries, but it is far from the only one. As businesses respond to price incentives, and the lower price of fuel brought about by subsidies results in more fuel being used and therefore more CO<sub>2</sub> emissions than if fuel subsidies were not in place. This dynamic between the cost of an input and the quantity used is a basic feature of the pricing system and is evident in the surge in innovation and fuel-saving techniques (fishing in rough weather, engine replacement, gear adaptation, gear change, or changing target species) whenever fuel prices rise.<sup>17</sup> This increase in fuel usage due to a lower price is additional to the increase in fuel use generated by increasing fishing effort as fishing trips become more profitable (Fig. 1).



**Furthermore, because different fishing methods use fuel in different proportions, fuel subsidies also favour fuel-intensive fishing methods, which is also highly correlated with fishing methods that cause more harm to the marine environment.** For similar species, large-scale fisheries, which travel further distances, have higher fuel costs in proportion to income than small-scale fisheries which have higher labour costs in proportion to income. In addition, active fishing gears such as trawling, have a much higher share of fuel costs in their cost structure than passive gears. This divergence is often stark. In Dutch fisheries, 24-40 metre beam trawlers have fuel costs that total 29% of fleet income, while for 18-24m drift/fixed nets that figure is 6%. In French Atlantic fisheries, 18-24 metre demersal trawlers/seine have fuel costs that total 24% of fleet income, while for 0-10 metre passive gears that figure is 2%.<sup>18</sup> This means that when seafood products compete in consumer markets (either directly with each other or with other food products) fuel subsidies provide fuel-intense fishing types such as trawling with a competitive advantage. The environmental impacts are significant as active gears, which impact the seabed, tend to have larger ecosystem impacts than passive gears, in addition to consuming more fuel. **As a result, fuel subsidies increase ecosystem impacts by incentivising more harmful fishing methods.**

**Rather than abiding by the polluter pays principle, the provision of fuel subsidies is a perverse case where pollution – through overfishing, CO<sub>2</sub> emissions, and damage to the marine environment – is being paid.**

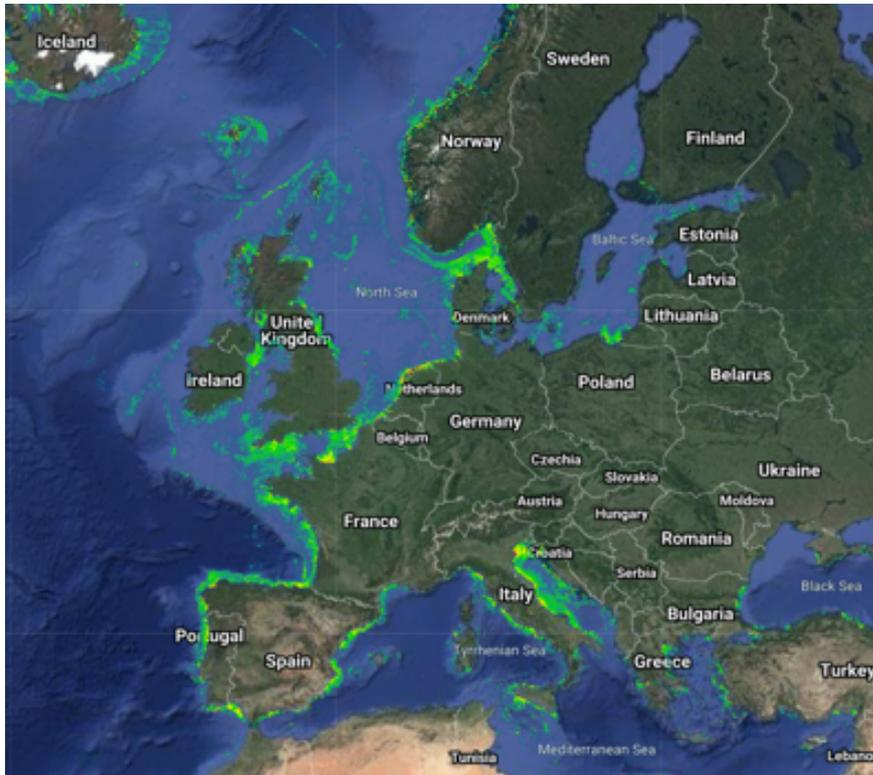
## WHAT IS THE POTENTIAL IMPACT OF PROHIBITING EU FUEL SUBSIDIES?

The latest estimates put annual EU fishing fuel subsidies at around €1 billion,<sup>19</sup> possibly as high as €1.5 billion.<sup>20</sup> These are all indirect fuel subsidies in the form of exemptions or concessions from normal rates of fuel tax. However, the distribution of these indirect fuel subsidies across the EU's fishing fleet is highly unequal. First, the level of tax exemption a fishing business benefits from depends on the MS to which they belong, since both fuel taxes and the rate of exemption differ across MS. In Denmark, Sweden and Germany, for example, excise duties are high, whereas in Spain and Lithuania the rate is minimal.<sup>21</sup> Second, within a MS fleet the distribution is also unequal, due to relative fuel usage. As mentioned in the previous section, EU small-scale fishing fleets benefit from fewer fuel subsidies than the large-scale fleet – using about 0.15 litres of fuel for every €1 of fish landed, compared with the large-scale and distant-water fleets that use more than twice that amount (about 0.32 and 0.37 thousand litres for every €1 of fish landed, respectively).<sup>22</sup>

Given the unequal distribution of EU fuel subsidies, the socio-economic impacts of prohibition are also likely to be unequal. A recent study by researchers at the European Commission's Joint Research Centre on the impact of the removal of fuel subsidies in the fisheries sector reveals that about 8% of the small-scale fleet would go from profits to losses if fuel subsidies were removed, while about 34% of the large-scale fleet and 22% of the distant-water fleet would also go from profits to losses – noting that 67% of the distant-water fleet already operate at a loss despite fuel subsidies.<sup>23</sup> This static analysis does not incorporate changes to fleet behaviour or markets. The OECD study based on a dynamic equilibrium shows the impacts of the removal of fuel subsidies on small-scale fleets to be positive, as they could better compete on price with large-scale fleets. That study also revealed that the benefits from fuel subsidies currently go to the licence, quota or vessel owners of large-scale vessels, rather than to the crew themselves.<sup>24</sup>

**Fuel subsidies are therefore the most unfair form of support considered in the analysis.**

The potential impact of removing EU fuel subsidies would be low if the tax could be avoided, but this is generally a low concern for fuel taxes as fuel use is more linked to a specific region than other tax bases (e.g. international financial flows). In aviation, there is a concern that kerosene taxes or low-carbon fuel requirements will lead to bunkering – the process whereby fuel is sourced elsewhere – but this relates to the fact that travelling to other jurisdictions is the core practice of aviation businesses. The core practice of fisheries is catching fish, making travel to other jurisdictions time-consuming and expensive. Despite the fact that fuel tax differentials already exist between countries, including between EU MS, there is no evidence of bunkering in fisheries. In contrast, data on the movements of EU fishing vessels reveal that the vast majority of vessel activity take place within EU waters, and much of that activity within a few nautical miles of MS coastlines (Fig. 2). **The removal of fuel subsidies is therefore unlikely to see any bunkering effects, particularly not in the domestic small-scale and large-scale fleets.**



**Figure 2: Density of fishing vessel activity.<sup>25</sup>**

Note: Measured as hours per km<sup>2</sup> per month. Automatic identification system (AIS) is only required for vessels over 15m in length.

Ultimately, the removal of EU fuel subsidies would reduce catches and profitability in the short-term, particularly for those fuel intense fishing methods, but in the long-term would help fish stocks to recover and result in higher economic output. Higher fuel prices would also induce greater adjustments towards more energy efficient fishing vessels and gears,<sup>26</sup> which, coupled with greater fish stock abundance, would further increase the overall efficiency and profitability of EU fisheries, while simultaneously promoting reduced CO<sub>2</sub> emissions and damage to the marine environment.<sup>27</sup>



# CONCLUSION

Whether it is to honour the EU's international commitments or to incentivise fuel-efficient fishing; whether it is to reduce overfishing or to enable small-scale fishers to better compete; whether it is to stop incentives for damaging bottom trawling or to use fiscal policy prudently; the reasons to remove EU fuel subsidies are wide-reaching and overwhelmingly supported by science. As with any transition, removing fuel subsidies must be done justly, and possibly gradually, however this is helped by several factors.

Often absent from EU fisheries discussions is the fact that the EU fishing fleet is currently very profitable,<sup>28</sup> particularly the large-scale fleet, which would be most negatively impacted in the short-term by the removal of fuel subsidies (whereas the small-scale fleet is likely positively affected).

In addition, removing this form of support need not mean a reduction in overall support for the fisheries sector. **It is estimated that more than €1 billion of government revenue is foregone due to fuel tax concessions.<sup>29</sup> This public money could be repurposed for better use.** Fuel subsidies are a very inefficient means of supporting incomes, redirecting support – particularly if it supports the rebuilding of fish stocks – would result in improved socio-economic conditions for all fishers.

Finally, the EU is committed to achieving net zero greenhouse gas emissions – a commitment that includes the fisheries sector, which has barely begun its transition compared to other sectors. The future of EU fisheries undoubtedly consists of low-emission, and ultimately zero-emissions vessels. Reaching this goal – especially because it is a challenging sector to decarbonise – requires early action.<sup>30</sup> The first step, following the 'do no harm' principle, is surely to remove the most perverse, inefficient, unfair, and costly incentive that is still being provided by the EU – fuel subsidies.

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- 1 - Kaczynski, W. (1979). Joint ventures in fisheries between distant-water and developed coastal nations: an economic view. *Ocean Management*, 5(1), 39-48.
- 2 - Bayramoglu, B., Copeland, B. R., & Jacques, J. F. (2018). Trade and fisheries subsidies. *Journal of International Economics*, 112, 13-32.
- 3 - Villasante, S., Sumaila, R., & Antelo, M. (2014). Why cooperation is better? The gains of cooperative management of the Argentine shortfin squid fishery in South America. *Environment and development economics: Essays in honour of Sir Partha Dasgupta*, 270-294.
- 4 - Machado, F. L. V., Halmenschlager, V., Abdallah, P. R., da Silva Teixeira, G., & Sumaila, U. R. (2021). The relation between fishing subsidies and CO2 emissions in the fisheries sector. *Ecological Economics*, 185, 107057.
- 5 - Le Gallic, B., & Cox, A. (2006). An economic analysis of illegal, unreported and unregulated (IUU) fishing: Key drivers and possible solutions. *Marine Policy*, 30(6), 689-695.
- 6 - Pauly, D., Christensen, V., Guénette, S., Pitcher, T.J., Sumaila, U.R., Walters, C.J., Watson, R. & Zeller, D.I. (2002). Towards sustainability in world fisheries. *Nature* 418, 689-695.
- 7 - Sumaila, U. R., Skerritt, D.J., et al. (2021). WTO must ban harmful fisheries subsidies. *Science*, 374(6567), 544.
- 8 - Sumaila, U. R., Ebrahim, N., Schuhbauer, A., Skerritt, D., Li, Y., Kim, H. S., Mallory, T.G., Lam, V.W. & Pauly, D. (2019). Updated estimates and analysis of global fisheries subsidies. *Marine Policy*, 109, 103695.
- 9 - Pauly, D., Christensen, V., Guénette, S., Pitcher, T.J., Sumaila, U.R., Walters, C.J., Watson, R. & Zeller, D.I. (2002). Towards sustainability in world fisheries. *Nature* 418, 689-695.
- 10 - Authors' calculations based on Scientific, Technical and Economic Committee for Fisheries. (2020). *The 2020 Annual Economic Report on the EU Fishing Fleet (STECF 20-06)*, EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27164-29
- 11 - Carpenter, G., Kleinjans, R., Villasante, S., & O'Leary, B.C. (2016). Landing the blame: The influence of EU Member States on quota setting. *Marine Policy*, 64, 9-15.
- 12 - Corporate Observatory Europe. (2017). *Fishing for influence*.
- 13 - Poole, E. (2000). Income subsidies and incentives to overfish. *International Institute of Fisheries Economics & Trade proceedings*.
- 14 - European Fisheries Control Agency. (2020). *Evaluation suggests non-compliance with the Landing Obligations in certain fisheries in the North Sea and North Western Waters*.
- 15 - Martini, R. & Innes, J. (2018). *Relative Effects of Fisheries Support Policies*. OECD Food, Agriculture and Fisheries Papers, No. 115, OECD Publishing, Paris, 19.
- 16 - Ibid., 23.
- 17 - Haasnoot, T., Kraan, M., Bush, S. R. (2016). Fishing gear transitions: lessons from the Dutch flatfish pulse trawl. *ICES Journal of Marine Science*, 73 (4), 1235-1243.
- 18 - Authors' calculations based on Scientific, Technical and Economic Committee for Fisheries. (2020). *The 2020 Annual Economic Report on the EU Fishing Fleet (STECF 20-06)*, EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27164-29
- 19 - Carvalho & Guillen, 2021.
- 20 - Borrello, Motova, & de Dentes Carvalho, 2013.
- 21 - Ibid.
- 22 - Carvalho & Guillen, 2021.
- 23 - Ibid.
- 24 - Martini & Innes, 2018.
- 25 - EMODnet Human Activities. (2021). *Maritime Atlas*.
- 26 - Isaksen, J. R., Hermansen, Ø., & Flaaten, O. (2015). Stubborn fuel tax concessions: the case of fisheries in Norway. *Marine Policy*, 52, 85-92.
- 27 - Heymans, J. J., Mackinson, S., Sumaila, U. R., Dyck, A., & Little, A. (2011). The impact of subsidies on the ecological sustainability and future profits from North Sea fisheries. *PLoS One*, 6(5), e20239.
- 28 - Scientific, Technical and Economic Committee for Fisheries, 2020.
- 29 - Borrello, Motova, & de Dentes Carvalho, 2013.
- 30 - Vogt-Schilb, A., Meunier, G., & Hallegatte, S. (2018). When starting with the most expensive option makes sense: Optimal timing, cost and sectoral allocation of abatement investment. *Journal of Environmental Economics and Management*, 88, 210-233.