

BLOG POST February 20th 2025

The IMO's mid-term measures: Navigating the impact on food security

Auteur

Marie Fricaudet

Post-doctoral Fellow, Decarbonization of shipping

 Reading time: 6 min

The International Maritime Organization (IMO) is in the process of agreeing mid-term measures to reduce greenhouse gas (GHG) emissions from the shipping sector. While these measures are crucial for tackling climate change, they also come with economic consequences, particularly for nations heavily dependent on imported food. Increased shipping costs could drive up imported food prices in the short term, possibly exacerbating food insecurity in vulnerable regions such as Small Island Developing States (SIDS) and Least Developed Countries (LDCs). This blog post explores the key aspects of the IMO's mid-term measures, their potential impact on food security, the regions most at risk, and whether revenue from carbon pricing mechanisms could be used to mitigate these challenges.

Context and calendar of the IMO's mid-term measures

The IMO has set ambitious goals to achieve net-zero GHG emissions from international shipping by 2050. As part of its 2023 GHG Strategy, it is developing a set of legally enforceable measures aiming at reducing the GHG emissions of ships (the "mid-term measures"), to be adopted this year and implemented by 2027.

However, while these measures are critical to reduce shipping emissions, they will inevitably lead to increased transport costs. This, in turn, has raised concerns about their potential impact on food security, which have largely intensified during the last week of IMO negotiations last autumn ([Smith et al., 2024](#)). Given that maritime shipping is responsible for transporting approximately 80% of global trade, changes in shipping costs can significantly affect food prices and accessibility. The IMO therefore organized an expert workshop on food security which took place on 13 February, ahead of the week of negotiation on the mid-term measures, where various UN agencies and experts nominated by IMO members could present their analysis of the impacts.

Impacts of the IMO's mid-term measures on food security

The impacts of the IMO's mid-term measures on food security are driven by their influence on agricultural import prices, which in turn affects food availability and affordability. Several key issues were highlighted in the expert workshop:

- Many experts stressed that the IMO must provide clear and predictable guidance on policy measures well in advance. Food insecurity is generally a consequence of volatility in prices. If IMO's policy is not predictable, sudden regulatory changes could disrupt trade and supply chains, increasing risks for food security.
- Revenue distribution can mitigate impacts from IMO's GHG policy, as well as general volatility in supply chains (e.g. investments in infrastructure, storage, food import financing facility, domestic food production).
- Increased shipping costs will likely lead to higher imported food prices in the short term, disproportionately affecting low-income households. Countries with high import dependence, particularly SIDS and LDCs, will bear the brunt of these cost increases. Unless mitigation of costs/effects, for example through revenue distribution, is integrated into IMO's GHG policy.
- Higher food prices could benefit local farmers in some regions if domestic agriculture can scale up. However, many vulnerable countries lack the capacity to replace imports with local production.
- Workshop experts linked food security risks to biofuel incentives, including those in shipping, warning that increased demand for biofuels could divert agricultural resources, raising food prices. Similarly, if unplanned and unexpected, a sudden increase in ammonia demand as a marine fuel could come in competition with the fertiliser consumption for food production.

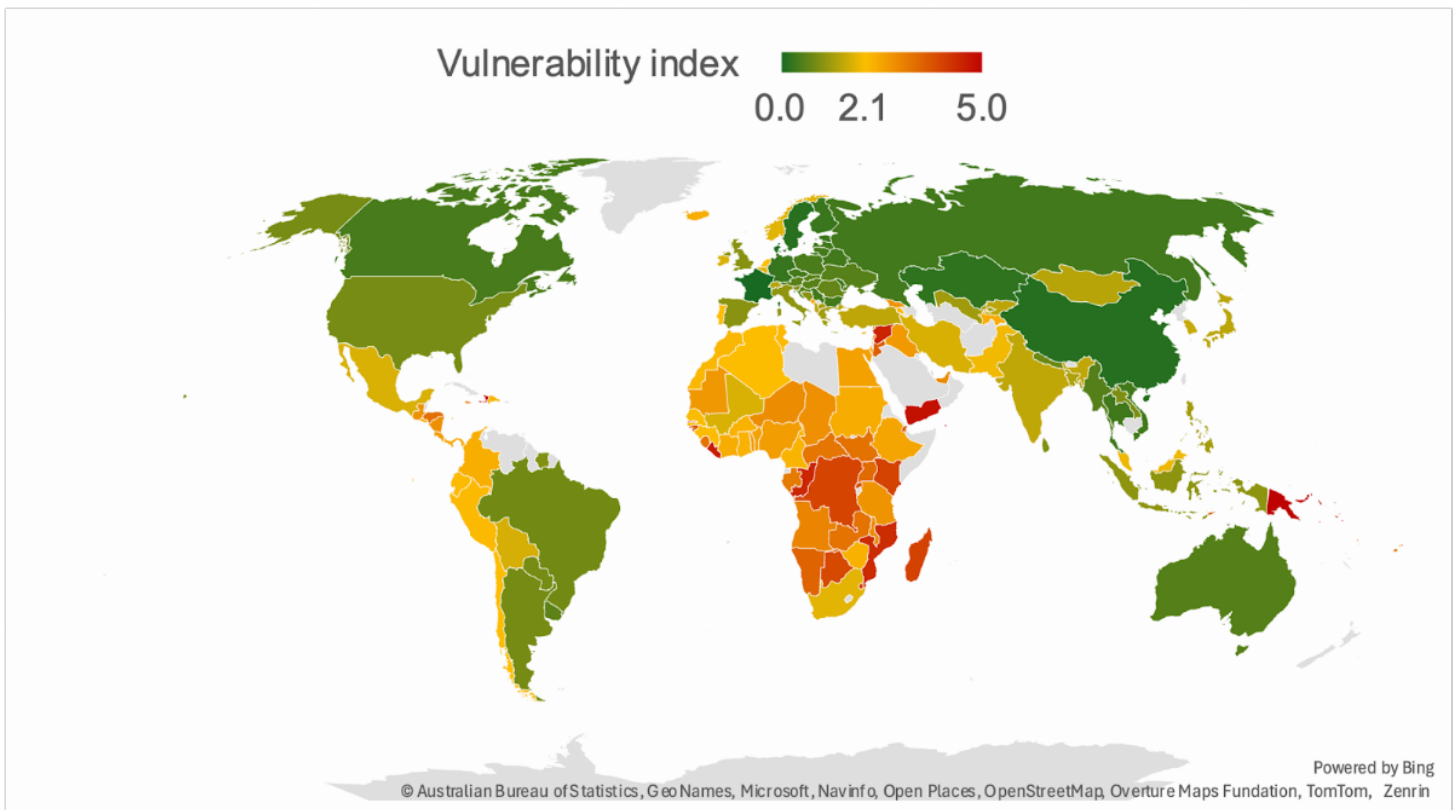
Which countries are more at risk?

The work presented in the workshop further provided evidence on the differentiated impacts on different countries. A vulnerability assessment conducted by [Fricaudet et al. \(2024\)](#) highlights that the most at-risk countries disproportionately include SIDS and LDCs, and many of those countries are located in the Pacific and Caribbean, North and Sub-Saharan Africa, parts of the Middle East, and South Asia (see Figure below). These nations exhibit a combination of high food import dependence, pre-existing food insecurity, and low economic resilience to price shocks. Some of those most vulnerable countries are also more likely to face higher import food cost in the short term, due to the mid-term measures, due to their remoteness to global value chains and the ships serving them (IMO's comprehensive impact assessment, 2024; cf. [access to IMO's resources](#)).

Many of those most vulnerable to the impacts of increased shipping costs and most likely to see their import costs increase are SIDS. Many of these nations already face structural challenges such as high import dependency, geographic remoteness, and climate vulnerability ([Wairiu et al., 2025](#); Forgenie et al., 2025 [forthcoming]). The increased costs of food imports due to the IMO's mid-term measures could worsen food insecurity in these countries. For Pacific SIDS, the challenge is even more pronounced ([Wairiu et al., 2025](#)). Many of these islands rely

almost entirely on imported staples such as rice, wheat, and processed foods. The increased transport costs will lead not only to higher prices but also to potential disruptions in food supply chains. Moreover, since many of these nations have limited agricultural capacity, they lack the ability to offset increased import costs with local production ([Wairiu et al., 2025](#)).

Figure: Food-security-vulnerability to changes in import prices - Composite index (result rescaled from 0 to 5). Yellow = median, 0 = lowest vulnerability, red = highest vulnerability



Average SIDS: 3.4 (most are not covered due to lack of poverty and/or food insecurity data)

Could revenue be used to address negative impacts?

Without specific measures aimed at addressing those negative impacts, the economic burden of increased shipping costs will likely fall disproportionately on low-income countries, potentially exacerbating global inequalities. The expert workshop therefore provided some recommendations to policymakers to consider targeted interventions to mitigate these adverse effects, among which revenue distribution or exemptions.

Most options for mid-term measures now considered raise some revenue, although some would raise significantly more revenue than others—in particular, the proposal of a levy on shipping emissions. One of the central debates within the IMO discussions is how to use those revenues. Estimates suggest that a shipping carbon levy could generate nearly \$1.9 trillion in revenue by 2050. The question remains: how should this revenue be distributed, and can it be used to offset negative food security impacts?

Some IMO Member States argue that revenue should be reinvested within the shipping sector to accelerate decarbonization efforts, such as supporting alternative fuel development and infrastructure improvements. However, this approach may not directly benefit food-insecure nations, some of which have little stake in the shipping industry itself ([Fricaudet et al., 2024](#)).

An alternative proposal is to allocate a portion of the revenue to vulnerable countries as compensation for increased food import costs. Given that the revenue raised by the mid-term measures, including a levy, will fade out as the fleet decarbonizes, while the increase in transport cost and therefore the risk on food security will continue in the long-term, it is important that the use of revenue has a long-term, transformational impact on the countries. For example, Grenada argued during the workshop that the Caribbean SIDS could use such funds to develop local food production systems and reduce import dependency. A targeted revenue distribution strategy could include (Forgenie et al., *upcoming*):

- Providing financial support to offset higher shipping costs for essential food commodities.
- Investing in agricultural production, storage, and transportation infrastructure to enhance food security resilience. For example, the UN Economic Commission for Africa argued for the revenue to be used to leverage existing efforts to increase intra-Africa trade to increase liquidity of the region's food markets as a means to reduce dependency on long distance imports.
- Direct financial assistance to vulnerable households to mitigate the impact of rising food costs.

If no revenues are generated, the only option is for the use of targeted exemptions (certain ships/trade flows/voyages) to be implemented. However, the countries/voyages exempted would eventually need to adopt zero-carbon technologies in the long term, while having limited access to rewards and financial support provided by the mid-term measures in the mid term to undergo its transition. This solution therefore delays, but does not provide any potential to address, the negative impact on food security.

TRANSPORT	FOOD SECURITY	TRANSPORT
-----------	---------------	-----------