Two for One: Are the climate impacts of trade a good proxy for biodiversity impacts?

The climate and biodiversity link

Climate change and biodiversity loss are intrinsically linked – land-use change, for example, is currently the most important driver of terrestrial biodiversity loss, and is a major driver of climate change; climate change is expected to become the primary driver of biodiversity loss during this century(i).

The Intergovernmental Panel on Climate Change recently estimated the different climate impacts on the ecological underpinnings of our economies and societies. At 2˚C of heating, 18% of insects, 16% of plants and 8% of vertebrates will lose more than half of their historical geographical range due to climate change, whereas at 1.5˚C of heating these impacts are expected to be limited to 6% of insects, 8% of plants and 4% of vertebrates(ii).

Whilst delivering on the Paris Agreement's commitment to limit global heating is necessary to reduce climate-induced biodiversity losses, it will not be sufficient to prevent further losses, nor restore the habitats and ecosystems that have already been degraded and lost.

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Some policy options to mitigate and adapt to climate change also pose new risks by influencing other drivers of biodiversity loss. For example, biofuels – which have been promoted as a carbon-neutral energy source – have questionable environmental benefits, not just in terms of their potential to mitigate emissions but also due to negative impacts on biodiversity in many instances, largely through driving land-use change (iii, iv). Similarly, 'nature-based solutions' are often regarded as climate and biodiversity 'win-wins' as they can protect, manage, and restore ecosystems, address societal challenges and provide human well-being and biodiversity benefits. (v). Yet, in reality, nature-based solutions have sometimes been narrowly interpreted as planting trees to offset carbon emissions. Without relevant safeguards in place, the biodiversity outcomes of such actions can be negative. In addition, sourcing materials to transition to renewable energy, such as the rare-earth metals currently required for wind turbines and lithium and cobalt for batteries, bring further risks – especially through direct habitat losses associated with resource extraction (vi, vii)

The role of trade

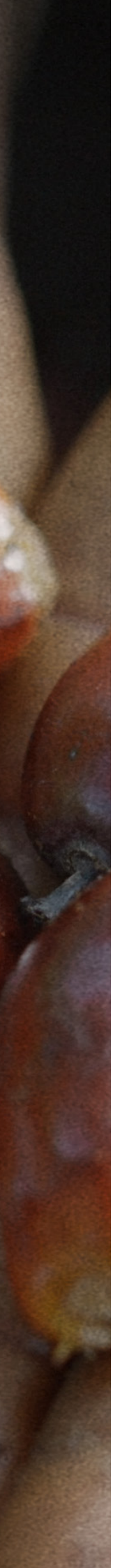
By allowing goods and services to be consumed in countries beyond where they are produced, trade plays many important roles affecting resource use and its environmental impacts.

In theory it can increase economic efficiency, allowing countries to produce goods where they have a comparative advantage, thus allowing overall production to increase and all parties to gain financially (See Discussion Paper 1).

While trade may increase overall outputs valued by the market economy, in practice, it also allows production to move around the world between different regulatory regimes where producers face different ecological conditions and have access to different technologies and skills. Equivalent goods produced in different geographies will therefore not necessarily have the same impacts on climate change and biodiversity loss – as these impacts are context specific.

Trade also puts a geographical gap between some environmental impacts associated with production and where consumption of the traded good/service takes place, making those impacts less visible to consumers. Trade infrastructure, required to transport goods, is also responsible for additional greenhouse gas emissions and biodiversity losses (including through the spread of invasive species).

The ramifications of this are that trade can amplify/concentrate environmental impacts by focussing global demand on regions where the financial costs of production are lower. Importers offshoring the environmental damage associated with their consumption are often less accountable for those impacts than the impacts of production within their own borders. Both consequences are particularly concerning where minimising production costs have higher environmental impacts – especially if such impacts are permitted because of less stringent regulation.



Whilst the most immediately visible impacts may be on the ecology and biodiversity in production areas, these will have knock-on effects leading to regional and global environmental impacts as well as consequences for people, with the poorest in society often faring worst (See Discussion Paper 5). For example, clear cutting forests to expand farmland for export agriculture can be enormously damaging to forest biodiversity, can lead to increased sediment runoff affecting downstream communities and infrastructure, reduces the carbon-sequestering function of forests (influencing the global climate), and can affect their influence over local and regional weather patterns, potentially, for example, reducing rainfall in areas proximal to forest clearances.

Climate and trade

A clear concern in relation to tackling climate change and trade is that countries with more stringent climate regulations will lose production to countries with less regulation. Higher production costs in first-mover countries (especially for carbon intensive products) could result in reduced competitiveness. If production simply shifts to areas of low-cost carbon-intensive production then there could also be reduced global environmental benefits of regulation.

Carbon Border Adjustment Mechanisms seek to address these issues by effectively placing levies on carbon-intensive imports, providing a level playing field for domestic producers in countries with more stringent carbon policies. The intention is to incentivise producers to seek lower carbon methods of production and consumers to avoid carbon-intensive products.

Biodiversity and trade

Concerns around climate and trade largely relate to the efficacy of measures to reduce total global greenhouse gas emissions and ensuring fair access to markets; concerns about the biodiversity impact of trade – where the geography of supply chains is more important – tend to focus on more specific connections that link consumption patterns and choices to impacts on species and habitats through supply chains. This is true whether trade is in wild species directly, or where loss of habitats is collateral damage from, for example, the expansion of agricultural commodity production.

Such biodiversity impacts of trade (when recognised) can be unpalatable for consumers and can be devastating in producer countries. Partha Dasgupta – author of an influential report on the economics of biodiversity produced for the UK Treasury (viii) – equates the loss of biodiversity through trade to a transfer of wealth from the exporting to the importing country, which, in the case of numerous tropical agricultural commodities, effectively represents a transfer of wealth from developing to developed countries.

However, well-regulated trade can also be an important lever to bend the curve of biodiversity loss (ix) and to reduce pressures on biodiverse areas by, increasing efficiencies and allowing production to move to less sensitive areas.

Applying border adjustment mechanisms to minimise biodiversity impacts from trade is significantly more complicated than to mitigate climate impacts, because the biodiversity impacts are more varied and geographically specific. However, there are many tools aside from border measures that can address biodiversity impacts associated with trade. These include 'behind the border' measures such as quotas and regulatory standards in both importer and exporter countries; international cooperation and multilateral environmental agreements; voluntary measures; and the tracing and disclosure of impact and consumer labelling implemented in specific supply chains by private-sector actors. Many such measures are already in place for international wildlife trade, for example under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Accounting for both climate and biodiversity

Although it is unrealistic to expect all the biodiversity and climate impacts of trade to be accounted for, or mitigated, through a single mechanism, it is important to recognise that relatively low climate-impact trade is not necessarily also low impact for biodiversity. Therefore decision-makers and consumers cannot rely on climate-focussed trade measures to account for the wider environmental impacts of trade. Rather, deploying a range of tools and arrangements is required to ensure that climate-positive trade is also positive for biodiversity.

One positive step in this direction is the growing momentum in some key consumer countries towards implementing due-diligence laws mandating deforestation-free supply chains. Such initiatives, when implemented in collaboration with producer countries, have the potential to be positive for both climate and biodiversity outcomes and could serve as an example of the efficiencies of tackling the two objectives together rather than separately. However, such measures on their own do not necessarily guard against excessive demand, which must also be actively managed to ensure sustainability.

Policies and measures to facilitate sustainable trade need to be designed with people in mind. Delivering inclusive social and economic benefits for all stakeholders including ensuring sustainable markets are both rewarding and accessible to those who rely on trade for their livelihoods is also critical .

Genuinely sustainable trade requires much improved supply-chain transparency and much better auditing of environmental, and social, impacts associated with production, distribution, and consumption. With over half of global GDP moderately or highly dependent on nature, ensuring trade has low, or positive, impacts on both biodiversity and the climate is critical for the survival of trade itself.

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This discussion paper is a part of a series highlighting the insights and findings from ongoing research across the GCRF TRADE Hub. It is intended to encourage dialogue. This discussion paper is led by James Vause, Richard King and Helen Harwatt. Please reach out to James Vause at james.vause@unep-wcmc.org.