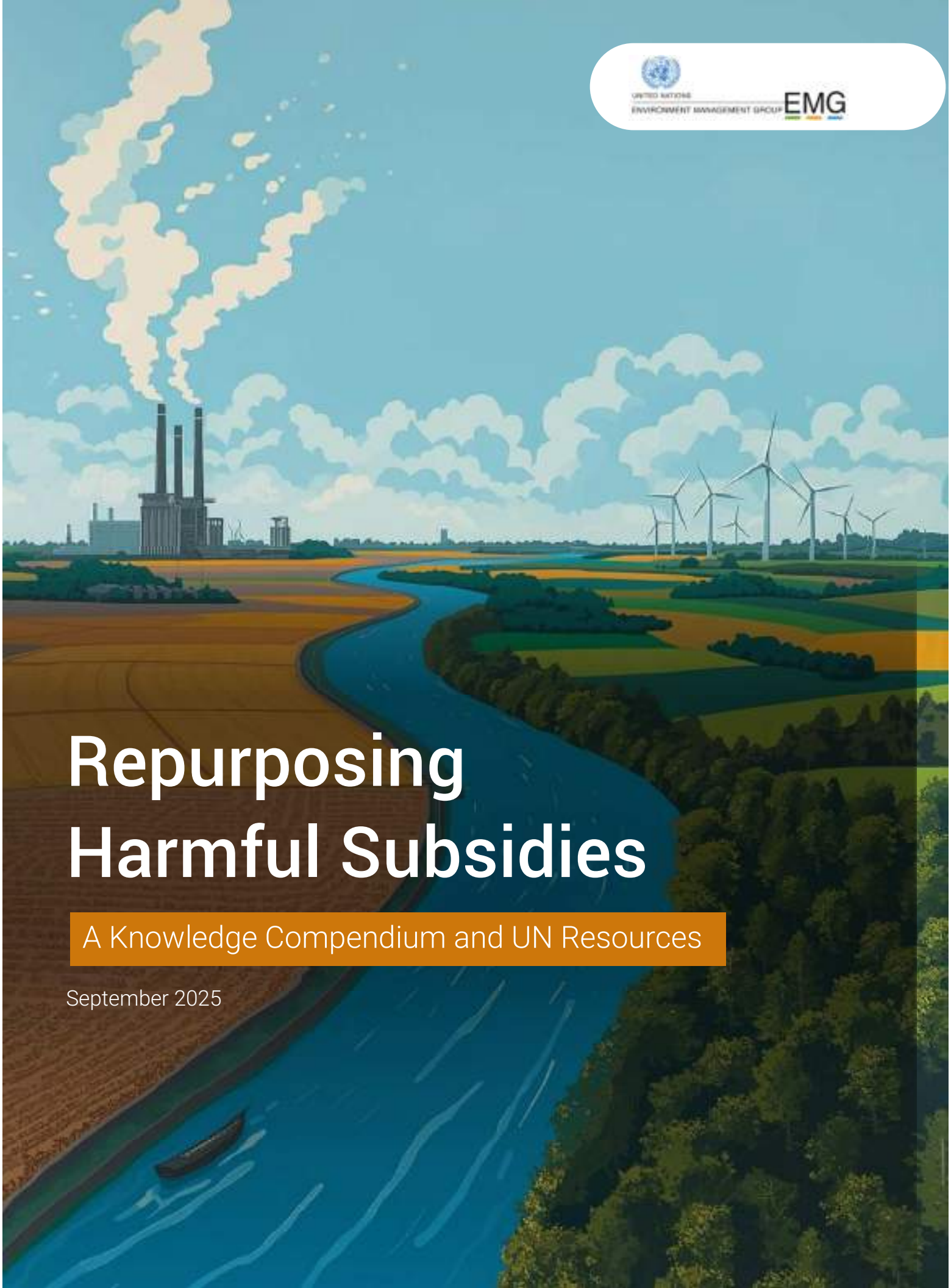


UNITED NATIONS
ENVIRONMENT MANAGEMENT GROUP
EMG

Repurposing Harmful Subsidies

A Knowledge Compendium and UN Resources

September 2025

Executive Summary

Reforming global subsidy systems offers a transformative opportunity to redirect economic incentives toward climate action, biodiversity conservation, and sustainable development. Despite this potential, governments continue to provide trillions USD annually to subsidies that exacerbate environmental degradation across key sectors such as energy, agriculture, and fisheries. These subsidies undermine efforts to combat climate change, protect biodiversity, and transition to sustainable practices. This document synthesizes insights from the United Nations Environment Management Group's Nexus Dialogue on Repurposing Harmful Subsidies, alongside UN System knowledge on subsidies, showcasing both best practices and challenges. This document is supported by a policy note providing actionable policy recommendations to achieve the ambitious targets of the Kunming-Montreal Global Biodiversity Framework and the Sustainable Development Goals.

The compendium highlights the issue of harmful subsidies, both progress and persistent challenges of repurposing efforts. Reform efforts are politically and socially complex, often hindered by vested interests, institutional inertia, and public resistance to price increases. However, case studies show that phased reforms, just transition measures, and targeted compensation can protect vulnerable groups while freeing resources for sustainable investments.

Fossil fuels remain the most heavily subsidised sector, with governments providing vast sums of support through both direct transfers and implicit subsidies that fail to account for environmental costs. These subsidies lock in carbon-intensive energy systems, delay the transition to renewables, and disproportionately benefit wealthier households. Phasing out such subsidies through gradual reforms, while ensuring social protection measures for vulnerable groups, is essential to achieving global climate targets and redirecting public finance toward clean energy solutions.

Agriculture receives extensive government support, much of it production-linked in ways that encourage overuse of fertilisers, soil degradation, and biodiversity loss. Current subsidies, averaging USD 440 billion annually, are projected to rise to USD 1.8 trillion by 2030 if left unreformed. Redirecting this support toward sustainable practices, such as agroecology, regenerative agriculture, and organic farming, can enhance climate resilience, restore ecosystems, and reward farmers for delivering public goods like carbon sequestration and biodiversity protection.

Fisheries subsidies, estimated at USD 35 billion per year, contribute significantly to overcapacity and overfishing, undermining marine ecosystems and the livelihoods of coastal communities. Around two-thirds of this support is considered harmful, propping up industrial fleets at the expense of small-scale and sustainable fishers. Aligning reforms with the World Trade Organization's Fisheries Subsidies Agreement offers a pathway to eliminate harmful subsidies while promoting community-led marine protected areas and sustainable aquaculture.

Success in repurposing harmful subsidies requires whole-of-government approaches, robust monitoring frameworks, transparent governance, and international cooperation. With coordinated action, governments can shift trillions in public spending away from practices that harm people and nature, and toward those that safeguard ecosystems, advance the SDGs, and promote long-term economic resilience.

Contents

EMG Nexus Dialogue Series on Repurposing Harmful Subsidies

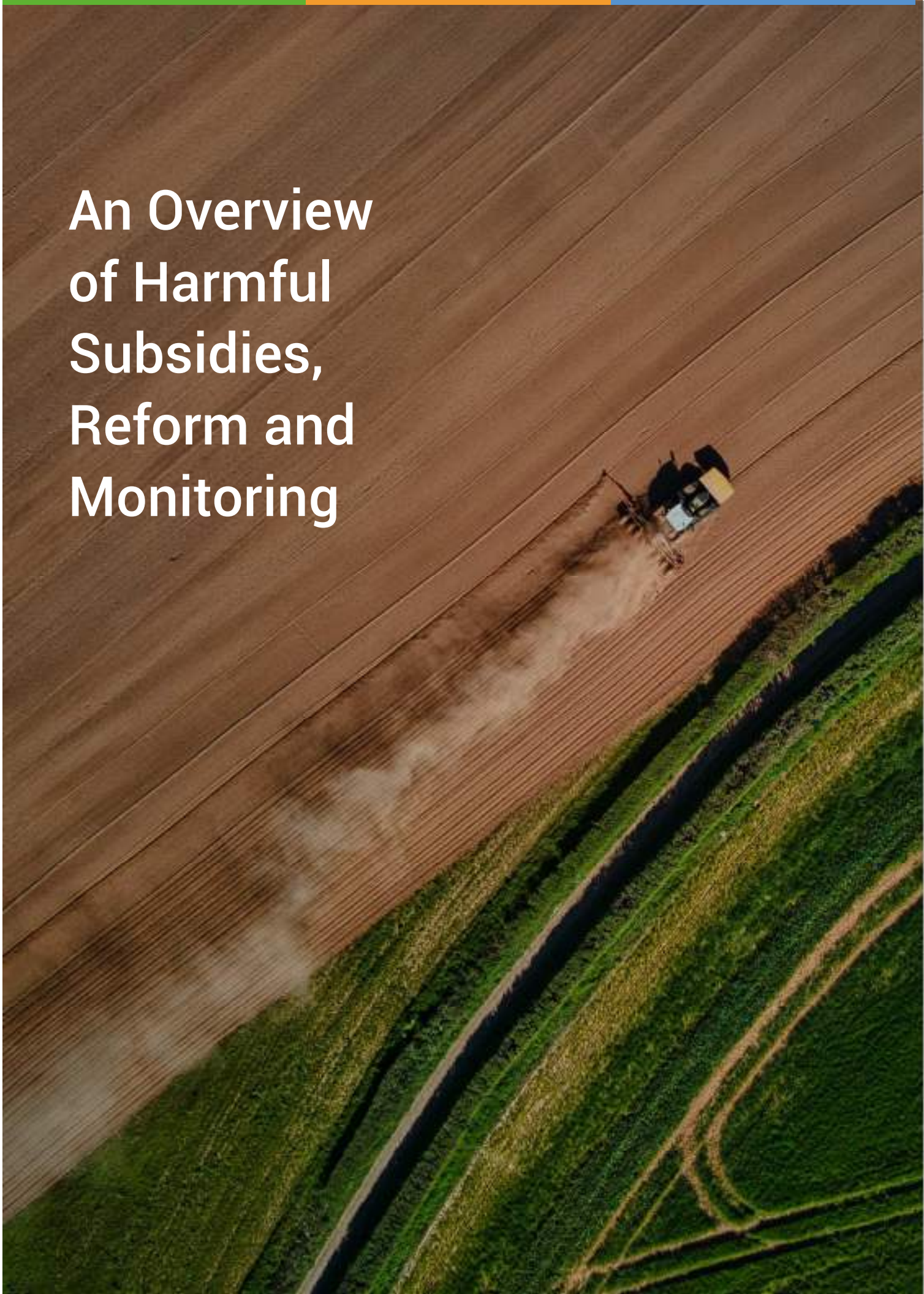
The impact of subsidies on our ecological and economic landscapes is profound. Yet, the detrimental environmental effects of these subsidies often remain overlooked or inadequately assessed. Recognizing the complexities and widespread impact of these subsidies, in 2024, the United Nations Environment Management Group (EMG) coordinated a Nexus Dialogue Series on Repurposing Harmful Subsidies.

EMG Nexus Dialogues convene experts from various institutions, sectors and disciplines to explore emerging, persistent, and systemic cross-cutting issues, providing a platform for participants to discuss the thematic and institutional interlinkages of environmental issues, frameworks, and agendas within the broader framework of the Sustainable Development Goals (SDG).

The three-part webinar series on harmful subsidies brought together representatives from the European Commission, Food and Agriculture Organization of the United Nations (FAO), Global Environment Facility (GEF), International Institute for Sustainable Development (IISD), Organisation for Economic Co-operation and Development (OECD), Sveriges Riksbank, United Nations Resident Coordinator's Office India, UN Trade and Development (UNCTAD), United Nations Development Programme (UNDP) – BIOFIN Initiative, the World Bank, World Trade Organization (WTO), World Wide Fund for Nature (WWF). It aimed to enhance understanding and potential for reform of environmentally harmful subsidies and underscore the importance of collective action towards repurposing subsidies to support long-term environmental sustainability. Focusing their attention on the agriculture, fisheries, and fossil fuels sectors, speakers exchanged knowledge, addressed challenges, and explored opportunities for reform. In addition, the series aimed to align subsidies with the SDGs, foster sustainable practices, and support biodiversity conservation and ecosystem health, culminating in sustainable change across the UN system.

This compendium presents an overview of harmful subsidies, outlining the case for reform, illustrating examples of progress, examining key challenges, and identifying opportunities to streamline the reform process.

An Overview of Harmful Subsidies, Reform and Monitoring



Subsidies and Harmful Subsidies

Subsidies are a central feature of government economic policy, designed to provide financial support and encourage certain activities. Global support includes:

- **Fossil fuel subsidies** totaled USD 7 trillion in 2022[1]
- **Agricultural subsidies** average USD 440 billion annually and are expected to increase to USD 1.8 trillion by 2030[2]
- **Fisheries subsidies** between 2020 and 2022 averaged USD 10 billion annually[3]

While definitions vary depending on sector, subsidies are generally understood as financial contributions governments make to provide a specific benefit to recipients. According to the World Trade Organization (WTO), subsidies can take the form of direct financial transfers, tax breaks, or indirect support through policies aimed at lowering production costs[4]. These mechanisms are intended to promote growth, stabilise markets, or support social objectives. Subsidies are not just financial incentives—they shape how resources are used.

When poorly designed, subsides make environmentally damaging sectors artificially cheap and competitive, encouraging unsustainable practices that drive environmental degradation[5], while simultaneously undermining more sustainable alternatives that advance environmental goals.

A variety of measures can be grouped under the term harmful subsidies. The Organization for Economic Co-operation and Development (OECD) highlights that harmful subsidies encompass financial support and regulations that distort markets and result in adverse environmental impacts. These subsidies can promote unsustainable practices in agriculture, energy production, and fisheries, leading to significant biodiversity loss and environmental degradation[6]. The Convention on Biological Diversity (CBD) refers to perverse incentives as those policies or practices that unintentionally lead to biodiversity destruction while aiming to achieve other socio-economic objectives. Examples include subsidies that promote deforestation, overfishing, or the overuse of chemical fertilizers and pesticides. Additionally, the IMF highlights the role of implicit subsidies resulting from governments failing to account for the environmental costs of fossil fuels and other polluting activities. These subsidies often arise from a lack of internalizing the external costs of pollution and emissions in market prices, effectively encouraging unsustainable practices[7].

In the energy sector, fossil fuel subsidies make it cheaper to produce and consume fossil energy, rendering renewable energy a less attractive investment option. Fisheries subsidies promote overcapacity and depletion of marine resources. Subsidies in the agricultural sector, incentivize deforestation for intensive livestock farming and monocrop cultivation with synthetic fertilizer and pesticide use, which leads to significant GHG emissions and biodiversity degradation. This sector is estimated to be responsible for one third of all GHG emissions globally[8]. Without targeted mitigation policies and systemic reforms, emissions from this sector are projected to increase substantially, potentially contributing up to 50% of global GHG emissions by 2050[9].

[1] IMF
[2] FAO, UNEP, UNDP
[3] OECD
[4] WTO; UNDP
[5] Matthews & Karousakis (2022)
[6] OECD; UNDP
[7] UNDP; IMF
[8] Ritchie (2021)
[9] IPCC

Repurposing harmful subsidies

Amidst escalating global environmental crises, each demanding substantial financial resources, the constraints of limited funding necessitate the repurposing of available finances land investments towards cost-effective solutions that deliver maximum impact on biodiversity, pollution, climate change, and land degradation.

There is a pressing need for a global financial realignment, as environmentally harmful public subsidies continue to rise – increasing 55 percent between 2021-2023 - and cumulative nature negative financial flows from the public and private sector totaling 7 trillion dollars annually[10].

Global leaders have recognized the need to repurpose or eliminate harmful subsidies through Multilateral Environmental Agreements (MEAs) and conventions. The United Nations Convention on Biological Diversity (CBD)'s Kunming-Montreal Global Biodiversity Framework (GBF) represents a landmark commitment to preserving nature by 2030. A critical aspect of this framework is the focus on modifying incentives, particularly subsidies detrimental to biodiversity. Target 18 within this framework emphasizes the need for countries to mitigate such subsidies' adverse effects and establish beneficial incentives to encourage biodiversity conservation. Specifically, it mandates the identification and alteration or elimination of biodiversity-harmful incentives by 2025, aiming to reduce at least US $500 billion annually by 2030. The United Nations Framework Convention on Climate Change (UNFCCC), reports through its Global Stocktake that significant finance flows continue being directed, including through subsidies, towards investments in high-emissions activities and infrastructure that lack resilience and that a systematic approach to shifting finance flows is needed to support effective climate action at the required scale and speed.

In addition, in 2023, over 160 Member States at UNFCCC COP28 endorsed a Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action to reorient public agricultural support to reducing GHG emissions, enhancing livelihoods, and mitigating ecosystem degradation[11]. Nevertheless, governments continue to channel vast sums of public spending towards environmentally harmful practices.

[10] UNEP State of Finance for Nature 2023
[11] UNFCCC COP28

Overcoming Barriers for Effective Reform of Subsidies

Subsidy reform is inherently a political process influenced by institutional dynamics and the vested interests of various actors. The challenge lies in addressing economic inefficiencies and navigating deeply entrenched political and social structures that favor the status quo. Political lobbying by industries that benefit from harmful subsidies and public resistance to price increases often leads to policy inertia and limited progress toward reform. In numerous countries, fossil fuel subsidies are considered an integral part of socio-economic policies, with governments often reluctant to reform them due to concerns about public dissatisfaction and potential backlash over rising energy prices[12].

Addressing these challenges requires a comprehensive approach that strengthens institutional frameworks, curbs corruption, and fosters renewable energy development as a viable alternative to overcome structural barriers to reform[13]. A just transition framework, ensuring that vulnerable groups are protected during the reform process, is critical to gaining public acceptance and mitigating socio-economic risks. Targeted compensation mechanisms, such as cash transfers or social welfare programs funded through subsidy savings, have proven effective in countries like Indonesia, India, and Iran, where subsidy reforms were paired with measures to protect low-income households[14].

The success of subsidy reform depends on transparent governance and effective communication strategies to build trust and counter disinformation from vested interests. Public perception and confidence in government institutions play a crucial role in overcoming resistance to reform. In some cases, phased or gradual reforms combined with investments in renewable energy infrastructure have helped manage political risks and reduce economic disruptions.

Overcoming structural barriers calls for a whole-of-government approach, ensuring that subsidy reforms are embedded in broader economic and environmental policy frameworks. This includes strengthening regulatory institutions, promoting market-based instruments such as carbon pricing, and fostering public-private partnerships to redirect and support the transition to sustainable development projects and cleaner energy systems[15].

International cooperation and technical assistance from multilateral institutions can also significantly support countries to implement subsidy reforms. For instance, the International Monetary Fund (IMF) and World Bank have provided loan-based incentives and technical expertise to help countries phase out fossil fuel subsidies while ensuring that the fiscal space created is redirected toward poverty reduction, renewable energy development, and sustainable infrastructure projects[16]. Complementing these efforts, subsidy reform is also supported by resources that help policymakers understand the consequences of harmful subsidies and the pathways available to address them, such as the World Bank's Detox Development; Repurposing Environmentally Harmful Subsidies. Initiatives such as the BIOFIN initiative by the United Nations Development Programme (UNDP), which offers a detailed methodology to support nations in reforming harmful subsidies and emphasizing the urgent need to reevaluate subsidies to ensure a positive environmental impact.

[12] OECD
[13] Droste et al. (2024)
[14] OECD
[15] OECD; UNDP
[16] UNDP

Monitoring Subsidies

Robust monitoring frameworks with clear indicators are essential for tracking progress in the phasing out and reallocation of harmful subsidies[17]. However, most countries do not have monitoring systems in place to track the environmental impact of subsidies. Data deficiency and unreliability, alongside the absence of an environmental assessment framework for governments to assess subsidy impacts, are significant challenges to effective reform. Countries can ensure transparency and accountability in subsidy reform processes by adopting a comprehensive monitoring and reporting framework. This approach will facilitate tracking progress toward achieving GBF Target 18.

Key indicators in subsidies monitoring frameworks could include:

- **Annual reductions in fossil fuel subsidies**: Monitor progress in cutting fossil fuel subsidies and evaluate their financial and environmental impacts at national and international levels.
- **Annual reductions in fisheries subsidies**: Monitor progress in reducing harmful subsidies that contribute to overfishing and marine ecosystem degradation.
- **Number of countries implementing biodiversity-positive agricultural incentives**: Measure and evaluate the adoption of policies that incentivize sustainable farming practices, such as crop diversification, organic farming, and agroecology.
- **Trends in investments toward renewable energy and sustainable practices**: Track shifts in public and private investments toward green technologies, renewable energy infrastructure, and nature-based solutions.
- **Introduction of biodiversity impact indicators**: Develop and implement standardized indicators to measure the impact of subsidy reforms on biodiversity and ecosystems. These indicators should be adapted to local contexts and include GIS mapping and financial data.
- **Social and economic impact assessments**: Regularly evaluate the effects of subsidy reforms to ensure they safeguard vulnerable populations and support broader socio-economic objectives, including poverty reduction and job creation.

[17] UNDP

Deep Dive into Subsidies per Sector

Energy Subsidies

Description

Fossil fuel subsidies are commonly understood as government policy measures that target a specific energy source and produce at least one of the following outcomes[18]:

a) a reduction in the net cost of purchased energy,
b) a decrease in the cost of producing or delivering energy, or
c) an increase in the revenues retained by energy suppliers

These benefits are most often provided through direct financial transfers, regulated price controls, or tax concessions. Such subsidies may be directed either toward fossil fuel producers—such as entities engaged in oil extraction, refining, or distribution—or toward consumers through reduced end-user prices.

The Fossil Fuel Subsidies Tracker—drawing on data from the OECD, IEA, IMF, United Nations, and the World Bank—show that fossil fuel subsidies are on an upward trajectory, reaching USD 1,529.21 billion in 2022. By energy type, coal accounted for the smallest share, while the largest allocations were directed to petroleum products, followed by natural gas and electricity.

The Issue of Harmful Energy Subsidies

Energy subsidies, particularly fossil fuel subsidies, remain a substantial global issue, with post-tax subsidies reaching an estimated $7 trillion, or 7.1% of global gross domestic product (GDP) in 2022[19].

Energy subsidies are especially pronounced in developing regions, where they can consume up to 18% of GDP, as seen in parts of Asia, the Middle East, and North Africa. These subsidies represent economic inefficiencies and serve as political tools that influence energy markets and perpetuate long-term reliance on fossil fuels[20].

A frequently noted concern is that consumer subsidies for fossil fuels distort energy pricing. By keeping energy prices artificially low, subsidies hinder the transition to cleaner energy sources and reduce the profitability of energy producers, discouraging both state-owned enterprises (SOEs) and private investors from expanding energy production capacity, ultimately leading to energy shortages that can hamper economic growth[21].

Energy subsidies also crowd out growth-enhancing public spending. In many countries, governments spend more on energy subsidies than on critical sectors like public health, education, and infrastructure development. Redirecting these funds to social welfare programs or clean energy investments aligns with the broader objectives of the Paris Agreement to promote sustainable development and transition to low-carbon economies[22].

In addition to economic inefficiencies, energy subsidies exacerbate environmental issues. By promoting the overconsumption of fossil fuels, subsidies contribute to global warming and local air pollution. Eliminating fossil fuel subsidies could reduce carbon dioxide (CO_2) emissions by over 5 billion tons annually—a 15% decrease in

[18] IISD
[19] IMF
[20] OECD
[21] IMF
[22] OECD

global energy-related emissions—and provide substantial health benefits by lowering pollutants like sulfur dioxide and particulate matter[23].

"Looking at Nationally Determined Contributions (NDCs) under the Paris Agreement, far more countries have committed to increasing subsidies to renewable energy than reforming subsidies to fossil fuels. But the benefits of renewable energy subsidies can be cancelled out if countries continue to support fossil fuels at the same time." (*Philip Gass, 2021*)

Monitoring Energy Subsidies

While current monitoring on energy subsidies focuses on the economic aspects, such as through the Fossil Fuel Subsidies Tracker, most countries lack systematic mechanisms to monitor and report on their environmental and social impacts. This gap significantly constrains the ability to inform preventive policy action. Measuring these harmful impacts is therefore a necessary first step, not only to guide sustainable reforms, but also to ensure that subsidies genuinely deliver on their intended goals of supporting social well-being and long-term development.

Tools such as the UNFCCC Global Stocktake provide a platform to monitor and evaluate the phasing out of fossil fuel subsidies.

The United Nations Environment Programme (UNEP) has introduced a comprehensive methodology for "Measuring Fossil Fuel Subsidies in the Context of the Sustainable Development Goals". Indicator 12.c.1 measures the amount of fossil-fuel subsidies relative to gross domestic product (GDP), underscoring the need to cut these subsidies to foster a green economy and lower carbon emissions. This approach provides Member States with a structured framework to accurately report and thereby initiate steps towards reducing such subsidies, which is essential for advancing an approach towards a circular economy.

Reforming Energy Subsidies: Challenges

The withdrawal of fossil fuel subsidies can lead to unintended negative consequences if not carefully managed. For instance, abrupt subsidy removal may result in sharp increases in energy prices, disproportionately affecting low-income households and small businesses. This could exacerbate energy poverty and provoke public resistance, undermining reform. For example, Iran introduced gasoline price increases in 2019 under long-standing fiscal pressures, combined with a system of cash transfers to offset the impacts on middle- and lower-income groups. Although, the reforms faced challenges due to limited stakeholder engagement and political unrest, highlighting the importance of transparent communication and public acceptance in subsidy reform efforts[24].

Reforming Energy Subsidies: Benefits, Pathways and Success Stories

Effective reform of energy subsidies requires a careful assessment of past experiences, pathways to reform and potential or realized benefits of reform, in order to maximize their potential for supporting sustainable development.

- Targeted and well-managed subsidies can play a constructive role in supporting a low-carbon transition, improving energy affordability and access, and preventing large-scale layoffs or bankruptcies.

[23] OECD

[24] UNDP

- Reforming fossil fuel subsidies can create employment opportunities and strengthen energy security within a sustainable, low-carbon framework—especially when accompanied by measures that protect low-income households and maintain affordable access to essential energy services.

- Financial mechanisms such as tax concessions and royalty reductions provide similar incentives to direct subsidies, offering capital-intensive industries a monetary advantage. Reforming these instruments, alongside direct subsidy adjustments, can redirect resources toward energy-efficient and low-carbon technologies, encouraging innovation and industrial transformation[25]. India's phased reduction of fuel subsidies is a key example, as the country tripled public support for renewable energy projects alongside subsidy reductions, showcasing how reforms can drive clean energy transitions and reduce energy poverty.

- Governments must design subsidy reforms that balance economic, environmental, and social objectives. Measures such as targeted cash transfers, social protection programs, and investments in renewable energy infrastructure can help alleviate the burden on vulnerable populations while maintaining momentum toward sustainability goals.

- Implementing carbon pricing and green energy financing policies would further support the shift to renewable energy by making fossil fuel consumption more expensive and clean energy investments more attractive[26].

- Governments must also focus on enhancing institutional quality to reduce regulatory capture by pro-fossil fuel interest groups and ensure effective policy implementation[27].

- Contrary to the existing misconception, financial support for reducing greenhouse gas (GHG) emissions should be recognized as a form of subsidy, as such financial assistance can artificially lower business costs.

- The effectiveness of energy subsidy reforms is shaped by four key mechanisms: the market power of renewable energy industries, policy measures to reduce energy subsidies, the quality of governance institutions, and reinforcing mechanisms solidifying reliance on fossil fuel pathways.

To achieve **a just transition**[28] and reduce dependence on fossil fuels, energy subsidy reforms should incorporate six key elements for success:

1. **Planning:** Developing comprehensive reform plans involving all relevant government agencies, particularly those focused on welfare and marginalized groups.
2. **Consultation:** Engaging stakeholders and social welfare groups to assess the impact of reforms and ensure buy-in from affected communities.
3. **Communication:** Clearly communicating the benefits of reforms and compensation mechanisms to build public trust and reduce political backlash.
4. **Compensation:** Providing targeted assistance to vulnerable consumers through cash transfers and other social protection measures.
5. **Timing:** Gradually phasing out subsidies to allow consumers and businesses to adjust, ensuring a smooth transition.
6. **Institutional Reform:** Reforming SOEs and pricing mechanisms to prevent the re-emergence of subsidies[29].

[25] Hoy et al. (2023)
[26] World Bank
[27] OECD

[28] Broadly defined as "ensuring that no one is left behind or pushed behind in the transition to low-carbon and environmentally sustainable economies and societies"
[29] OECD; World Bank

Several countries have successfully implemented energy subsidy reforms, showcasing that a just energy transition is achievable with the right policies, including:

- **Indonesia** implemented cash transfers and compensation programs alongside its subsidy reform efforts, effectively mitigating the impact on low-income households while reducing government expenditure.
- **India** reduced fossil fuel subsidies by 59% since 2014 and tripled public support for renewable energy projects during the same period.
- **Zambia** eliminated inefficient fuel subsidies in 2021 and redirected the savings toward freeing secondary education.
- **Sri Lanka** reduced transport fuel and electricity subsidies while strengthening social protection through cash transfers[30].

[30] OECD

Agricultural Subsidies

Description

Agricultural subsidies provide support to farmers by lowering the cost of production, facilitating market access, or enhancing revenue. While some support is provided in the form of traditional subsidies, such as payments, discounts, or rebates for agricultural inputs, much government spending on agriculture entails market price incentives that manipulate domestic or international prices to benefit agricultural sales. Total global support to agriculture is estimated to range from USD610 billion to USD842 billion annually[31].

The distribution of agricultural subsidies is highly uneven. High-income economies, such as China, the EU and the United States, provide the largest most public support to domestic agriculture and maintain trade policies that support their products in global markets[32]. By contrast, lower-middle and low-income countries, meanwhile, provide significantly less subsidies and producers often face price disincentives that keep the costs of production high and profit potential low. In that way, agriculture subsidies perpetuate global economic inequalities in addition to incentivizing environmentally harmful systems.

The Issue of Harmful Agricultural Subsidies

Agricultural subsidies have traditionally prioritised economic and social benefits while disregarding environmental effects, with over 87% of government support found to harm nature and public health by incentivising emissions-intensive practices and commodities[33].Key subsidy instruments, including market price support, output-based payments, and payments tied to unconstrained variable inputs, reward high productivity through the expansion of intensive agriculture. This involves the following processes:

- Land clearing and deforestation
- Extensive land manipulation (i.e., tillage, watering, raking)
- Synthetic pesticide and fertilizer application
- Chemical contamination of soil
- Limited species diversity: Most global support to agriculture is directed towards a small number of commodity crops or intensive livestock systems

Together, these activities emit GHGs, pollute the air and water, degrade soils, and disrupt ecosystems, contributing to climate change, land degradation, and biodiversity loss[34].

These dynamics create reinforcing negative feedback loops, where low-diversity, high-input systems make crops more vulnerable to pests, disease, and climate shocks, which degrades the reliability and nutritional quality of crop yields over time[35]. This, in turn, places additional strain on farmers and increases dependence on continued external support and subsidies.

[31] IEG on Environmentally Harmful Agricultural Subsidies
[32] IMF
[33] IMF; WWF
[34] UNDP BIOFIN
[35] Kaur et al (2024); Elbasiouny et al (2022)

Factors influencing the need to repurpose agricultural subsidies

Global spending patterns highlight the clear need to repurpose harmful agricultural subsidies. Countries allocate USD~ 600 billion annually on agricultural subsidies, yet only a tiny fraction is directed toward conservation. This spending contrasts sharply with the estimated USD 722-967 billion required annually for biodiversity conservation, highlighting the substantial financing gap. Redirecting existing resources away from environmental and towards nature-positive approaches would not only close part of this gap but also generate co-benefits for climate mitigation, food security, and rural livelihood. For example, repurposing subsidies towards Nature-based solutions (NBS), which offer cost-effective means of mitigating and adapting to climate change, preventing biodiversity loss, and reducing pollution[36].

Reforming Agricultural Subsidies: Challenges and Obstacles

The tradeoffs between the environmental, economic, and health outcomes of agricultural subsidies create tension within subsidy reform.

The Affordable Inputs Program (AIP) in Malawi provides an example of the tension in subsidy reform. AIP subsidies seed and fertilizer costs for smallholder farmers, who make up the majority of Malawi's population and depend on staple crops for subsistence and income. Maize is particularly crucial to Malawi's food and economic security, grown by 90% of farm households and comprising 60% of caloric intake nationwide[37]. The combination of widespread agricultural dependence and a growing population necessitates intensive maize production, which entails land clearing, crop monoculture, continuous cultivation, and heavy use of inorganic pesticides. These practices are increasingly degrading the soil quality and productivity of Malawi's agriculture - over 40% of soils in Malawi are low in nutrition and strongly acidic. Ongoing reforms to the AIP seek to diversify cultivation away from maize monocropping, incentivize reforestation on preserved or shared land, and strengthen domestic value chains for a range of agricultural products. demonstrating how subsidies can be repurposed for environmental, economic, and health benefits.

Reforming Agricultural Subsidies: Well-planned subsidies

While current agricultural subsidies degrade the environment, well-planned subsidies can create agricultural systems that support environmental health. Subsidies can be used to affect agricultural practices themselves or to make improvements in the surrounding environment. Agroecology, organic farming, and regenerative agriculture offer many sustainable agriculture practices that could be incentivized through subsidy reform. Cover cropping, crop diversification, and silvopasture can be implemented within agricultural systems to improve soil fertility, ecosystem biodiversity, and carbon sequestration[38]. Upcycling agricultural byproducts and waste to be used as fertilizer and feed is another approach to support soil fertility while reducing the GHG emissions and pollution associated with synthetic inputs[39]. Improvements to the land and waterways adjacent to agricultural systems can also be incentivized through subsidies and lead to environmental benefits. For instance, retiring highly erodible land and constructing buffer strips along the perimeter of fields can reduce

[36] IMF
[37] Makombe et al, (2010)
[38] IEG on Environmentally Harmful Agricultural Subsidies; Heyl et al. (2022)
[39] Indre (2023)

erosion, improve soil fertility, prevent groundwater pollution, and strengthen agriculture resilience against storms[40]. Through such changes, revised agricultural subsidies have the potential to support biodiversity, increase GHG sequestration, and bolster ecosystem resilience[41].

Incentivizing environmentally sustainable practices can be achieved by providing subsidies for relevant tools or by tying payments to practices themselves. In Senegal, the Program to Revive and Accelerate Agriculture (PRACAS) provides input subsidies for organic fertilizer and various crop seeds to discourage synthetic input use and shift production from peanut monoculture towards more diversified crop systems[42]. Alternatively, Switzerland provides practice-based payments for farmers who have at least six plant indicator species present on their grasslands – a policy intended to improve soil fertility and biodiversity[43]. Results-based subsidies that reward farmers for achieving specific objectives may be more effective than input or action-based subsidies[44]. However, measuring environmental results like carbon sequestration or biodiversity can prove challenging for example, measuring biodiversity through the number of plant and insect species is costly and spatially/temporally limited. Agri-environmental subsidies in the US and Europe therefore use proxies such as the land enrolled in sustainable agriculture programs, the degree of crop diversification, or the type and level of pesticide and fertilizer use[45]. Still, the relationship between proxies and actual environmental impact is imperfect and tends to vary significantly across contexts. Tying subsidies to multiple or continuous thresholds within the intended outcome (e.g., species diversity, soil fertility, water quality, vegetative coverage) may help to make payment cutoffs less arbitrary and maximize the incentives to adopt sustainable practices[46].

To ensure such subsidy reforms achieve intended outcomes, budget optimization processes must incorporate environmental, social, and health considerations alongside economic analyses. Incorporating new indicators for environmental wellbeing may help countries maximize agrifood GDP in a sustainable manner. For instance, the FAO has developed climate and biodiversity markers to incorporate alongside measures of productivity and food security in budget processes. FAO is implementing environmentally-sensitive budget optimization for national food and agriculture budgets across sub-Saharan Africa[47].

Subsidy reform must account for the soft skills required to enable farmers to adopt new sustainable practices or technologies. The World Economic Forum lays out two stages of subsidy reform – the first focused on short-term financing solutions and incentives that provide capital, crop insurance, and upskilling so that farmers can transition to more sustainable practices. Subsidies may be provided as action-based incentives that reward certain practices and are accompanied by training and insurance. The second stage focuses on creating an economic system that supports sustainable agriculture long term. This includes financial support for ecosystem services, new forms of insurance, and market opportunities for new crop

[40] IEG on Environmentally Harmful Agricultural Subsidies
[41] FAO, IFAD, UNICEF, WFP and WHO; Heyl et al. (2022)
[42] Milhorance et al (2024)
[43] Schaub et al (2025)
[44] Heyl et al. (2022)
[45] Schaub et al (2025)
[46] Pinto-Correia et al (2022); Schaub et al (2025)
[47] Sanchez, 2024

types or cover crops. At this point, subsidies should support a wide range of sustainable agriculture practices and products and should be tied to nature-based outcomes and impacts[48].

Well-designed agricultural subsidies can help to realize nexuses and synergies between different issues. The GBF, for instance, identifies agriculture practices that are mutually beneficial for biodiversity and climate. These include enhancing landscape complexity, increasing vegetative cover, implementing agroforestry, and supporting natural filtration systems to protect wetlands and water ecosystems[49]. These measures contribute to nutrient and habitat availability for diverse species while increasing the carbon sequestration potential of land and water bodies[50].

Sustainable agriculture practices can also enhance food security, promote healthier diets, and improve overall food system resilience[51]. Crop diversification, organic farming, wildlife corridors, and pollinator habitats can improve soil health, nutrient availability, and dietary diversity and security[52].

Additional opportunities and pathways for reform:

- Promote inter-ministerial working groups to identify and reform harmful subsidies and scale up practices, drawing upon global guidelines, databases, and alternative approaches (e.g., agroecology).
- Promoting results-based subsidies that reward carbon sequestration and biodiversity restoration outcomes.
- Supporting green credit for smallholder farmers to adopt sustainable technologies
- Promoting eco-engineering solutions to address eutrophication and mitigate GHG emissions from agriculture. Incorporating climate, biodiversity, and pollution metrics into public expenditure reviews and budget optimization to promote synergies between environmental, economic, and health objectives.
- Encouraging landscape-level collaboration in pollution prevention and biodiversity-promotion practices, leveraging existing international and regional channels across the UNFCCC and the CBD.
- Revising taxes and trade policies to create price incentives for sustainable agriculture production, recognizing the differing capacity for subsidy support between high-, middle-, and low-income contexts.
- Implementing environmental and social safeguard systems to avoid future negative impacts and costs.
- Increasing public funding for research and development (R&D) and agriculture extension services to support innovation and local capacity building for sustainable farming[53].

Monitoring and Reporting

Finally, subsidy reform must be accompanied by robust data and transparent monitoring and reporting mechanisms to ensure subsidies align with global environmental goals and to track the effectiveness of repurposing efforts[54]. Public databases, such as the Global Food and Nutrition Security Dashboard, can be utilized to track and measure financial flows on food.

[48] WEF
[49] Global Alliance for the Future of Food
[50] Shin et al (2022)
[51] IMF; FAO
[52] Teran et al (2025)
[53] Heyl et al. (2022)
[54] FAO; Heyl et al. (2022)

Fisheries Subsidies

Description

Harmful subsidies in the fisheries sector, totalling an estimated USD 10 billion annually, contribute significantly to overfishing and the degradation of marine ecosystems. Fisheries subsidies are broadly defined as government interventions or actions that provide direct or indirect financial benefits to the fisheries sector. These subsidies typically include financial support for fuel, vessel construction, fishing gear, and infrastructure, as well as tax rebates and reduced resource access fees[55].

Beyond traditional subsidies, policy support in the form insurance, access to foreign waters, and lack of regulation of certain species, marine areas, and labour practices also incentivize overfishing.

Together, these subsidies distort market prices and enhance capacity beyond the natural regenerative capacity of fish stocks, leading to marine ecosystem collapse and threatening the economic and food security of millions of people who rely on fisheries for their livelihoods[56]. The depletion of fish stocks and biodiversity loss resulting from these subsidies undermines global efforts to achieve biodiversity conservation, food security, and sustainable fisheries management[57].

Reforming Fisheries Subsidies: Challenges and Obstacles

Efforts to reform harmful fisheries subsidies face numerous challenges, including political resistance from industries benefiting from these subsidies and limited capacity in developing countries to manage transitions[58]. Many fishing industries possess strong lobbying power and oppose subsidy reforms due to concerns over job losses and potential economic decline in coastal communities, while governments often face pressure to maintain subsidies to support small-scale fishers and sustain local economies. Additionally, a lack of comprehensive data on the scope and impact of fisheries subsidies, coupled with inconsistent reporting and inadequate monitoring frameworks, hinders effective reform and makes it difficult to assess their effects on marine ecosystems[59]. Equity concerns further complicate reform efforts, as developing countries, particularly small island developing states (SIDS) and least developed countries (LDCs), rely heavily on fisheries for food security and economic development, necessitating financial and technical support to manage the socio-economic impacts of subsidy reforms and ensure a just transition to sustainable practices[60].

Many countries lack the institutional capacity and resources to implement effective fisheries management systems, highlighting the importance of strengthening governance frameworks and capacity-building programs to ensure sustainable fisheries management and compliance with international agreements[61].

[55] FAO
[56] UNDP BIOFIN
[57] UNCTAD
[58] Vivas-Eugui et al. (2022)
[59] FAO
[60] UNDP BIOFIN
[61] FAO

Reforming Fisheries Subsidies: Well-planned subsidies

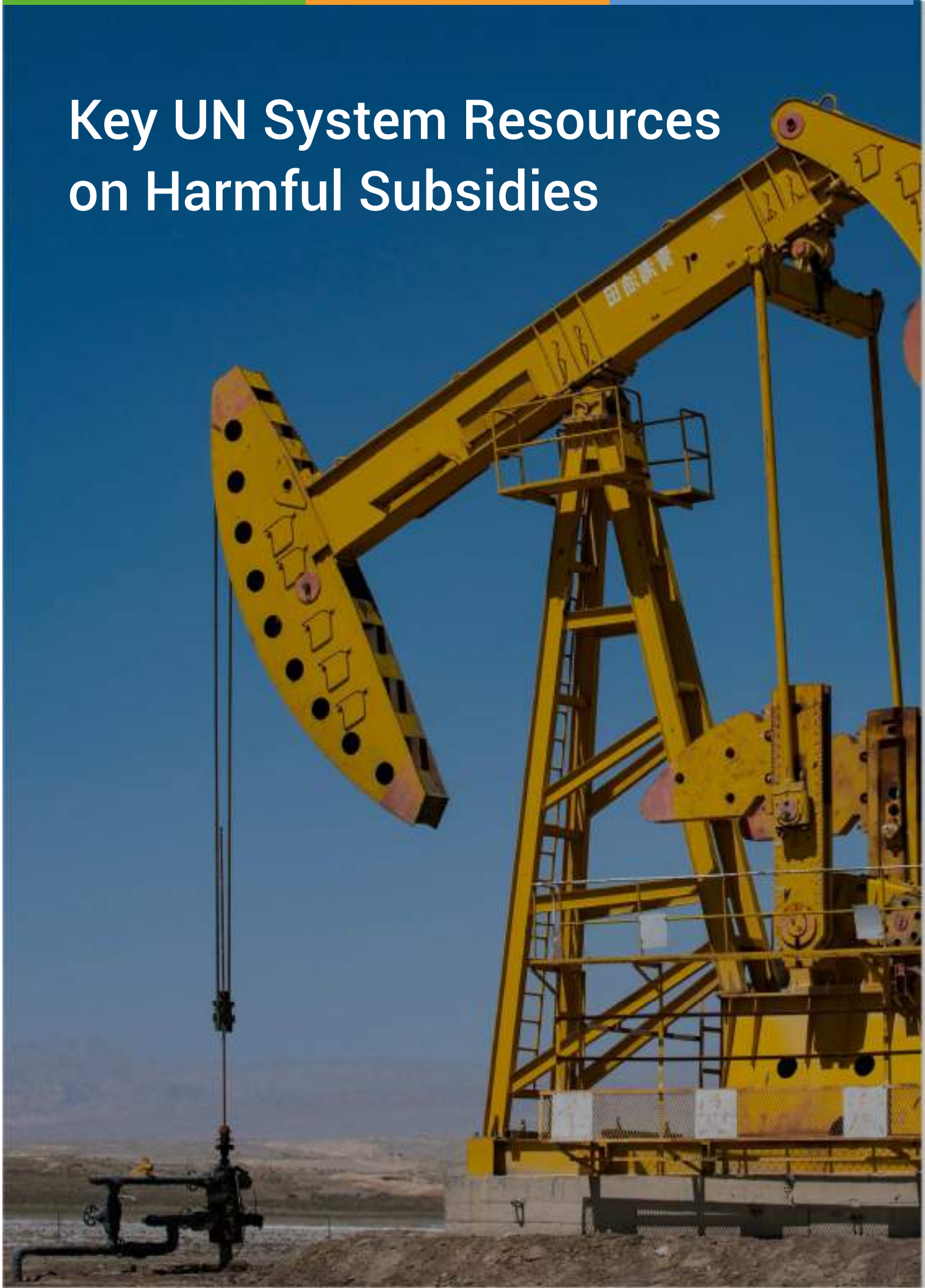
A critical milestone in addressing harmful fisheries subsidies was the adoption of the WTO Fisheries Subsidies Agreement in 2022. This agreement marks a historic step in global efforts to eliminate subsidies contributing to illegal, unreported, and unregulated (IUU) fishing, overfishing, and overcapacity in marine fisheries. It aims to prohibit subsidies linked to overfishing and overcapacity while promoting transparency and accountability in the fisheries sector. By implementing this agreement, countries can significantly improve the sustainability of fish stocks and align their fisheries policies with global biodiversity and food security objectives, particularly under frameworks like the GBF[62].

There are several opportunities to reform harmful fisheries subsidies to promote sustainable fishing practices and conservation of marine biodiversity:

1. **Implementing the WTO Fisheries Subsidies Agreement:**
   The WTO's 2022 agreement sets a precedent for global action to curb harmful fisheries subsidies. Countries should prioritize ratifying and implementing the agreement to prohibit subsidies contributing to overfishing, overcapacity, and IUU fishing.
2. **Enhancing Fisheries Management:**
   Strengthening fisheries management systems is essential to ensure sustainable stock levels and prevent the collapse of marine ecosystems. This includes implementing scientific-based catch limits, improving monitoring and surveillance, and enhancing regional cooperation to manage shared fish stocks.
3. **Promoting Positive Incentives:**
   Governments can redirect subsidies to support sustainable fisheries practices and promote marine conservation. For example:
   - Subsidies for sustainable aquaculture to reduce pressure on wild fish stocks.
   - Incentives for fishers to adopt eco-friendly practices such as using selective fishing gear that reduces bycatch.
   - Support community-led marine protected areas (MPAs) to conserve biodiversity and restore fish populations.
4. **Addressing Equity Concerns:**
   Ensuring that subsidy reforms are just and equitable is critical to gaining public support and protecting vulnerable communities. Governments should implement targeted compensation mechanisms, such as cash transfers or alternative livelihood programs, to support fishers affected by subsidy reforms.
5. **Promote International Cooperation:**
   Addressing harmful fisheries subsidies requires global cooperation and technical assistance from multilateral institutions like the FAO, UNDP, IMF, and World Bank. These organizations can provide financial incentives and capacity-building programs to support countries transitioning to sustainable fisheries management.

[62] Vivas-Eugui et al. (2022); WTO

Key UN System Resources on Harmful Subsidies



Author	Title
CBD	Kunming-Montreal Global Biodiversity Framework: Target 18
EMG	EMG Nexus Dialogue on Harmful Subsidies
FAO, UNEP, UNDP	A Multi-Billion-Dollar Opportunity: Repurposing agricultural support to transform food systems (2021)
IMF	IMF Fossil Fuel Subsidies Data: 2023 Update
IMF	Fossil Fuel Subsidies
SDG	Sustainable Development Goals; Goal 12 - Ensure sustainable consumption and production patterns
UNCTAD	Regulating Fisheries Subsidies
UNDP	BIOFIN
UNDP	Nature of Subsidies: A step-by-step guide to repurpose subsidies harmful to biodiversity and improve their impacts on people and nature
UNDP	Measuring and addressing potential adverse impacts on biodiversity from agricultural subsidies (2022)
UNDP	BIOFIN Workbook 2024
UNDP	Fossil Fuel Subsidy Reforms; Lessons and Opportunities
UNEP	State of Finance for Nature 2023
UNEP	Measuring Fossil Fuel Subsidies in the Context of the Sustainable Development Goals
UNEP	Outputs on Reforming Harmful Subsidies
UNFCCC	UNFCCC Global Stocktake
UNFCCC COP28	Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action
World Bank	Detox development; repurposing environmentally harmful subsidies
World Bank	Repurposing Agricultural Policies and Support: Options to Transform Agriculture and Food Systems to Better Serve the Health of People, Economies, and the Planet (2024)
WTO	Agreement on Fisheries Subsidies
WTO	Agreement on Subsidies and Countervailing Measures
WTO	Fossil Fuel Subsidies Reform
WWF	Turning harm into opportunity: repurposing agricultural subsidies that destroy forests and non-forest natural ecosystems
IISD	*Reforming Environmentally Harmful Subsidies A playbook (2025)*
OECD	*Environmentally harmful subsidies: policy issues and challenges*
OECD, IISD	*Fossil Fuel Subsidies Tracker*