



# Background Note on Fossil Fuel Subsidy Reform



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# 1.0 The Rising Imperative of the Need to Reform Fossil Fuel Subsidies

Fossil fuel subsidy reform has been regularly discussed by the G7, G20, Asia-Pacific Economic Cooperation (APEC), and many other forums over recent years. However, concerted and coordinated action to phase out inefficient fossil fuel subsidies has still to be taken. The recent spike in oil and gas prices following the Russian invasion of Ukraine left many governments facing the need to support their citizens in light of sharply rising fuel and food costs.<sup>1</sup> This adds a heavy fiscal burden to government budgets across the globe, which were already under pressure from supporting households and businesses during the first 2 years of the COVID-19 pandemic.

While a plunge in oil prices in 2019–2020 did not provide sufficient motivation to freeze or cap the historically low fossil fuel subsidies,<sup>2</sup> the rapidly rising costs of such support to public finances might better convince global leaders of the need to rationalize and reduce such expenses, and to scale up investment in energy efficiency, renewables, and other clean energy technologies.

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<sup>1</sup> The Organisation for Economic Co-operation and Development (OECD) (2021) inventory data demonstrates the 20% increase in fossil fuel subsidies in G20 economies to USD 190 billion in 2021 compared with the USD 147 billion in 2020. OECD has also collected data on support measures announced as a response to the energy price crisis and estimated their value at USD 246 billion across 42 countries for the period between October 2021 and December 2022, thus concluding that a significant increase in subsidy estimate should be expected for 2022.

<sup>2</sup> The International Energy Agency (IEA) was urging governments to use low fuel prices to phase out fossil fuel consumption subsidies (Gould et al., 2020).



## 2.0 Types and Estimates of Fossil Fuel Subsidies

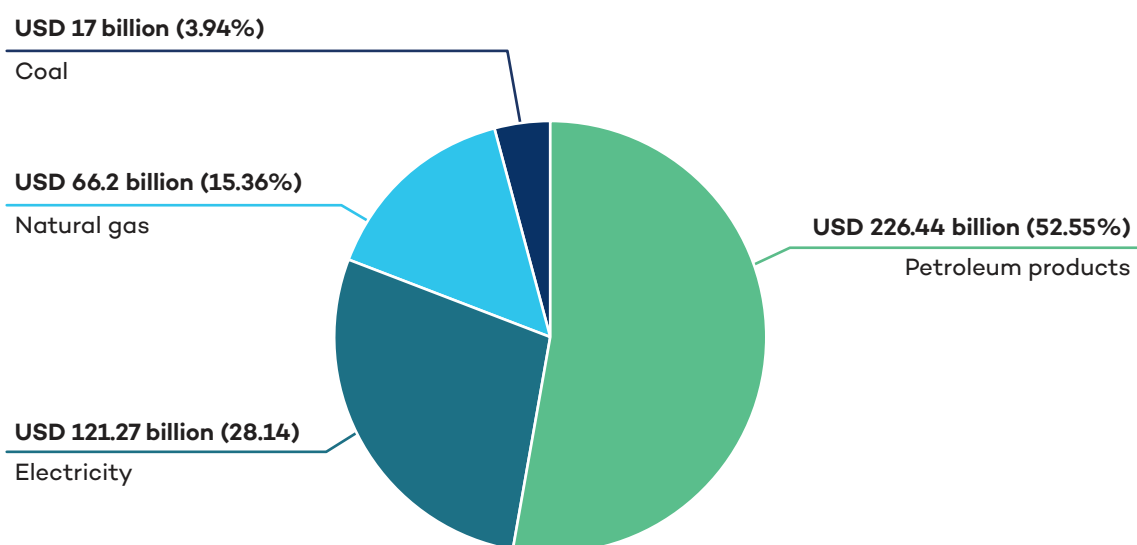
### 2.1 What Is Subsidized?

When discussing fossil fuel subsidies, researchers refer to subsidies provided to

- Primary fossil fuel commodities, such as crude oil, natural gas, coal, and peat.
- Secondary refined or processed products, including diesel fuel, gasoline, kerosene, coal, and peat briquettes.
- Electricity and heat generated by fossil fuel.

As seen in Figure 1, 2019 estimates of quantified fossil fuel subsidies show that most fossil fuel subsidies are spent on petroleum products (USD 226 billion, 52.55%). Slightly less than half that amount supports the production of electricity generated by fossil fuel (USD 121 billion, 28.14%). The third most supported type of fossil fuel is natural gas (USD 66 billion, 15.36%), followed by subsidies for coal.

**Figure 1.** Fossil fuel subsidies by fuel type (2019)



Source: Fossil Fuel Subsidy Tracker, n.d.



## 2.2 Categories of Fossil Fuel Subsidies

Most fossil fuel subsidies are categorized as either “production” or “consumption” subsidies, depending on the type of beneficiary receiving it.<sup>3</sup>

Production subsidies are provided to the producers of fossil fuels, and they appear at every stage of fossil fuel production, often in countries that produce oil, gas, or coal (United Nations Environment Programme [UNEP], 2019). According to the OECD, such subsidies include transfers to producers of fossil fuels and can include such activities as gaining access to reserves, exploration and field development, extraction, transportation and storage, refining and processing, as well as decommissioning of installations.

Consumption subsidies cover government support to further the consumption of fossil fuels, lowering their costs for private households or industrial consumers.<sup>4</sup> These subsidies are, therefore, provided to the consumers of fossil fuels in activities that could include the use of fossil fuels in power and heat generation, as well as in industrial processes and activities outside of the energy sector, including all other final uses of fossil fuels, be it in the sectors of transport, agriculture, forestry, fisheries, or the residential sector. This is a very broad category of subsidies ranging from government support for household cooking gas to economy-wide gasoline or diesel subsidies to support the price of energy inputs for domestic energy-intensive goods-manufacturing industries. Consumption fossil fuel subsidies are provided by many governments globally.

A third category of fossil fuel subsidies that is sometimes used is that of “general services” subsidies that benefit neither individual producers nor consumers of fossil fuel subsidies but, rather, are applied to a broader sector or economy, for example, some research and development activities or the construction of infrastructure.

Figure 2 illustrates how widespread the consumption subsidies are—86% of all fossil fuel subsidies were consumption subsidies in 2019. Subsidies provided directly to the production of fossil fuels made up only 9% of the total subsidy estimate.

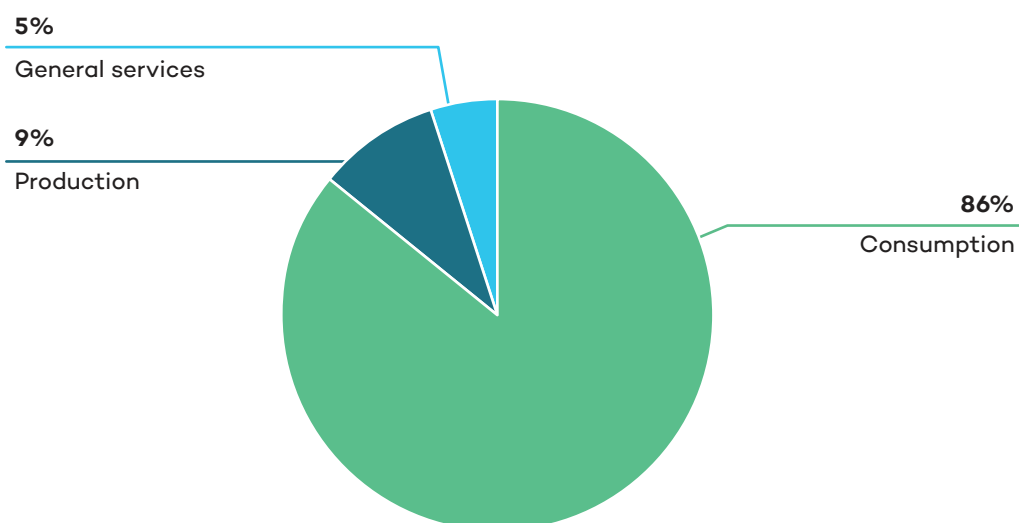
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<sup>3</sup> It is important to note that these categories are often also referred to as “producer” and “consumer” subsidies. But both the terms “production” and “producer” refer to the subsidies category that covers support to the production of fossil fuels, whereas the “consumption” or “consumer” subsidies category covers support to further the consumption of such fuels. In this context, the “consumer” is understood in a very broad sense and includes not only the end-users but also industrial users of fossil fuels in their production processes. As the categories of fossil fuel “production” and “consumption” seem to better capture their meaning for the purpose of this brief, they will be used henceforth.

<sup>4</sup> The also-used categories of “producer” and “consumer” subsidies can make it rather confusing to understand that the “consumer” category of subsidies is much broader than the government support for the end-users of fossil fuel products.



**Figure 2.** Fossil fuel subsidies by category (2019)



Source: Fossil Fuel Subsidy Tracker, n.d.

## 2.3 Estimates of Fossil Fuel Subsidies

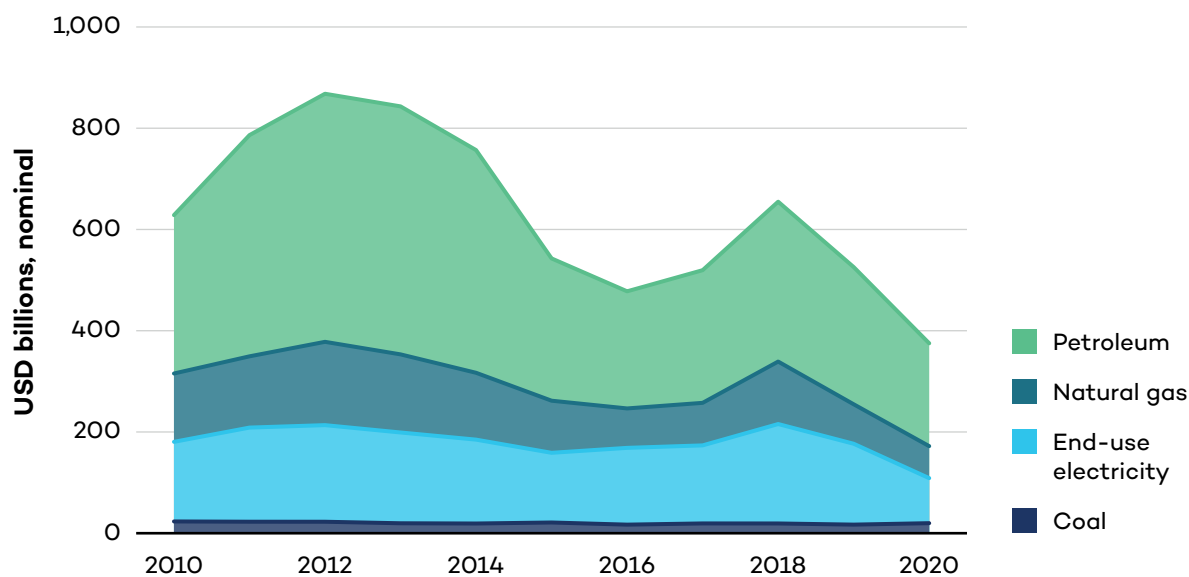
While different methodologies for measuring fossil fuel subsidies exist, the Fossil Fuel Subsidy Tracker,<sup>5</sup> a project of the International Institute for Sustainable Development (IISD) and OECD, registered USD 375 billion in fossil fuel subsidies in 2020—a sharp fall from USD 525 billion estimates in 2019. However, together with measures implemented to support post-COVID-19 economic recovery, the subsidies roared back during 2021, rising to almost USD 700 billion (OECD & IEA, 2022). Expectations are that global fossil fuel subsidies will be even larger in 2022, owing to further increases in fossil fuel prices.

When considering the estimates of fossil fuel subsidies, it is important to also put them into the context of existing support for renewable energy. In 2017 the International Renewable Energy Agency estimated that global supply-side renewable energy subsidies were around USD 167 billion, of which USD 128 billion was dedicated to renewable power generation and USD 38 billion to the transport sector (Taylor, 2020).

<sup>5</sup> The Fossil Fuel Subsidy Tracker uses data from the OECD, IEA, International Monetary Fund (IMF), United Nations, and World Bank. <http://www.fossilfuelsubsidytracker.org>



**Figure 3.** Fossil fuel subsidy estimates by fuel type (2019)



Source: Fossil Fuel Subsidy Tracker, n.d.

Current fossil fuel subsidy or support data collections include these subsidy mechanisms:

1. Direct transfer of government funds (OECD)
2. Tax expenditure, other revenue foregone (OECD), and under-pricing of goods and services (data partially collected by OECD)
3. Induced transfers (price support) (IEA and IMF)
4. Transfer of risk to government (some measures identified in G20 peer reviews but not quantified).

The OECD Inventory of Support Measures for Fossil Fuels (henceforth the “OECD Inventory”) covers over 1,300 identified and quantified policy measures in more than 50 countries<sup>6</sup> and is based on the official and validated data available for these countries. Because consumer price support was already being estimated by its sister organization, the IEA, the OECD chose to complement those estimates by focusing on fossil fuel support taking the form of direct budgetary transfers and tax expenditures that provide benefits for fossil fuel production or consumption. It also includes other policy measures, classified as “general services support,” that benefit fossil fuel production or consumption in the long term through the development of private or public services, infrastructure, or institutions. The OECD points out that their approach of estimating “support” rather than subsidies is deliberately broader than what the World Trade Organization’s (WTO’s) subsidy definition would imply, as the inventory does not assess the possible impact of such measures on prices, quantities, or production. The OECD Inventory is consciously aimed at increasing the transparency of individual policies supporting fossil fuels and creating a better understanding

<sup>6</sup> Individual country notes on the OECD Fossil Fuel Subsidy Inventory are available here: <https://www.oecd.org/fossil-fuels/countrydata/>





of these policies. The OECD Inventory's focus on officially reported data means, however, that it likely under-reports support provided in ways and by countries that are less than fully transparent. Compiling and updating the inventory is also resource-intensive. Extracting data from government documents often requires engaging the skills of experts who can read the language of the country and understand how to search and interpret budget documents and tax-expenditure reports.

The IEA produces annual estimates of consumption subsidies generated through price support in more than 40 countries<sup>7</sup> providing such support, relying on proprietary sources for some of its price data. For its "explicit" (formerly "pre-tax") subsidies estimate, the IMF reports estimates for most countries of the world and obtains its local price data from public sources or its own staff. For both sets of estimates, the subsidies are estimated by multiplying the volume of subsidized fuel consumed by the difference between a reference price and the domestic price, adjusted for transport margins (also called the "price-gap method"). By necessity, this calculation generates a single number for each fuel and country estimate, no matter how many individual policy measures contribute to generating a price gap. Neither the IEA nor the IMF produces estimates of fossil fuel production subsidies.

The IMF estimates of what it considers to be fossil fuel subsidies in 2020 were USD 5.9 trillion or 6.8% of GDP; however, 92% of these estimates are implicit subsidies (formerly "post-tax").<sup>8</sup> While the IMF considers this to be a subsidy, it is rather an externalized environmental and health cost associated with fossil fuel combustion—namely, greenhouse gases and local pollution—as well as externalities related to road traffic, such as, for example, traffic congestion and accidents. While these estimates are not "subsidies" by any standard definition of a subsidy (including that used by the WTO), it is nevertheless important to keep this data in mind when considering the general costs that fossil fuels impose on society.

The Sustainable Development Goals (SDG) Target 12.c aims to

rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities. (United Nations, 2015)

To report on the progress of this target, UNEP, together with the OECD and the IISD, developed a methodology that integrates data from the OECD Inventory on direct budgetary transfers and tax expenditures, with the IEA's and the IMF's estimates of induced transfers (subsidies from market regulation and price support). However, due to the high complexity and limited availability of data for the transfer of risk subsidies from private

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<sup>7</sup> The IEA estimates focus on 40 countries that are mostly emerging or developing non-OECD countries. More information on IEA's methodology can be found here: <https://www.iea.org/data-and-statistics/data-product/fossil-fuel-subsidies-database#overview>

<sup>8</sup> More information about the IMF's methodology and its fossil fuel subsidies calculations can be found here: <https://www.imf.org/en/Topics/climate-change/energy-subsidies>



entities to governments (which could include credit or loan guarantees, non-market-based debt-equity swaps, the assumption of occupational liabilities, or price-triggered subsidies), the exercise will not include this category in the first stages of the SDG reporting process. The reporting will first start on mechanisms where more data is readily available—in particular, on the subsidy mechanisms of direct budgetary transfers, tax expenditures, and induced transfers (UNEP, 2019).

It is quite clear that the data on global fossil fuel subsidies is limited, as neither of the above data sets provides a full global picture, and, even when overlapped, neither fully covers and quantifies all policy measures in many of the major economies. As mentioned above, inventory-based approaches will naturally yield more complete results in countries that are more transparent. They also favour data on government-level support, as such data is likelier to be published in official publications and to be translated into another or several other languages. Many provincial- or municipal-level policies escape such attention. The “price-gap” approach can face challenges if the world reference prices are lacking or where global prices are themselves highly influenced by subsidies. Such an approach might also miss transfers that do not affect prices yet have a fiscal, political economy, or domestic environment impacts, and would not help when trying to link the specific subsidy programs to specific distortions or specific beneficiaries (Koplow, 2009). While the Fossil Fuel Subsidy Tracker (2022) provides estimates of fossil fuel subsidies and other support measures for 192 economies, the data for the specific country might only be available from one of the main three sources that would use one of the approaches described above. This situation not only creates high expectations related to SDG 12.c.1 reporting and a clear understanding of the challenges ahead, but also sheds more light on fossil fuel subsidies.

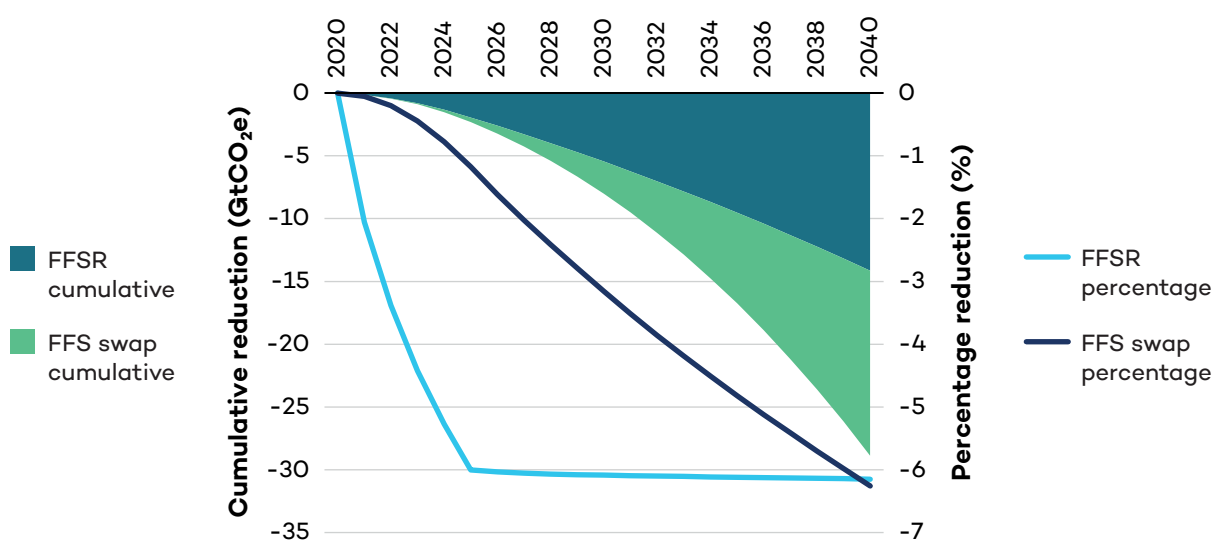


## 3.0 A Road to Reform

### 3.1 Environmental Impact of Fossil Fuel Subsidies and Individual Actions

Burning fossil fuels is an important source of greenhouse gas emissions that cause climate change. The latest modelling exercise by IISD estimates that fossil fuel subsidy reform by the set of 32 economies, including major developed, emerging, and developing countries, by 2025 would reduce carbon dioxide (CO<sub>2</sub>) emissions by an average of 6% in 2030, and in the case of some countries, the emissions can be reduced by up to 35%. The reinvestment of just a third of the savings from such reform into energy efficiency and renewable energy (a “subsidy swap”) would add an additional 3% reduction in CO<sub>2</sub> emissions by 2030, as illustrated in Figure 4 (Kuehl et al., 2021).

**Figure 4.** Average percentage and cumulative emission reductions from fossil fuel subsidy reform and the fossil fuel subsidy swaps across 32 countries between 2020 and 2040



Note: FFSR = fossil fuel subsidy reform; FFS = fossil fuel subsidy.

Source: Kuehl et al., 2021.

Fossil fuel combustion is also a significant cause of air pollution. The economic impact of its health effects has been estimated to have cost the world approximately USD 2.9 trillion or 3.3% of global GDP in 2018, as well as having caused the death of 4.5 million people (Myllyvirta, 2020). The reduced consumption of fossil fuels stemming from the subsidy reform would have an immediate impact on these health costs.

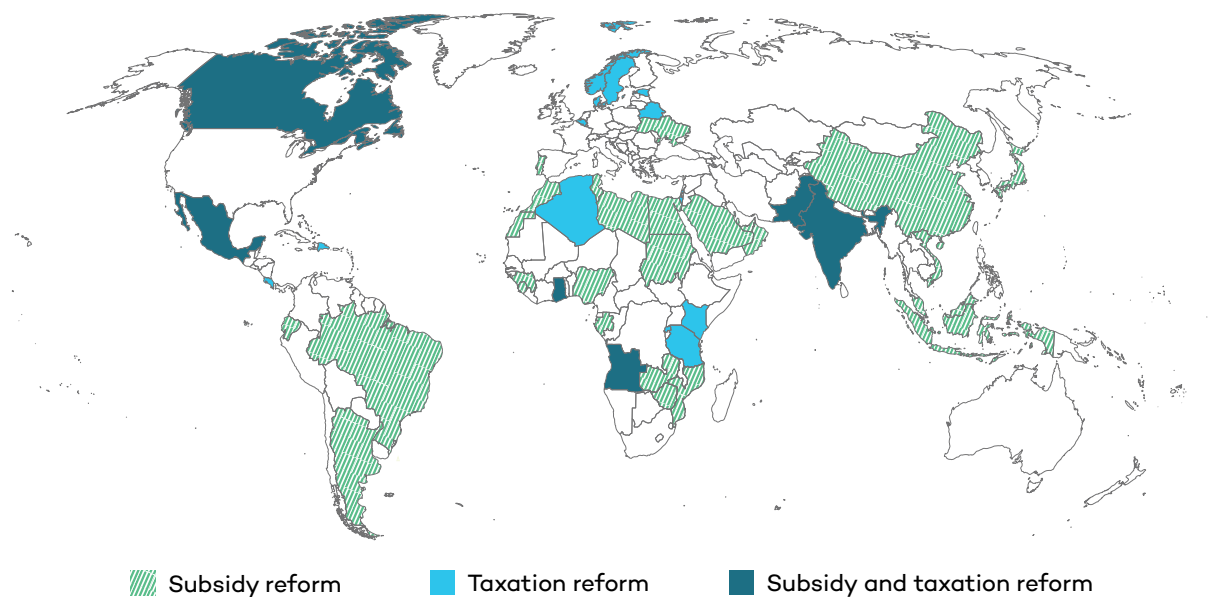
In addition to these negative environmental and health impacts, fossil fuel subsidies are also locking the countries using them into a high-carbon economy, as the support for renewable



energy development remains approximately three times lower than that for fossil fuels.<sup>9</sup> Prioritized subsidies for fossil fuels will slow down not only the innovation and investment needed for a timely transition into the renewable energy grids but also the reaping of benefits that the deployment of renewable energy technologies could have for energy intensity.<sup>10</sup> Fossil fuel subsidies also tend to enable the continuous circle of badly targeted social welfare policy that is fiscally costly and tends to benefit higher-income groups. An IMF study has reviewed the estimates of welfare impacts in 32 developing countries from Africa, Asia, the Middle East, and Latin America undertaken between 2005 and 2014. The study shows that 80% of gasoline subsidies go to the top 40% of the households and that the top 20% of households benefit six times more from the subsidies than the poorest 20% (Coady et al., 2015).

A heavy fiscal burden and ever-increasing environmental imperative have encouraged many countries to explore different approaches to making their public expenses more efficient and better targeted. Figure 5 illustrates fossil fuel subsidies and taxation reform efforts undertaken by at least 53 countries during the period of January 2015–May 2020, tracked by the Global Subsidies Initiative, of which 34 reformed their consumption subsidies, 14 increased fossil fuel taxation, and seven did both (Sanchez et al., 2020).

**Figure 5.** Individual country efforts to reform fossil fuel subsidies and taxation 2015–2020



Source: Sanchez et al., 2020.

<sup>9</sup> See more about the cumulative effects of high fossil fuel subsidies and three-fold smaller support for renewable energy, as well as difficult first steps in fossil fuel subsidy reform efforts, in Timperley (2021).

<sup>10</sup> The International Renewable Energy Agency estimates that the deployment of renewable energy technologies would facilitate the decrease of energy intensity in researched countries by 5%–10% by 2030 compared to the default scenario of only improving energy efficiency (International Renewable Energy Agency & Copenhagen Centre on Energy Efficiency, 2015).



## 3.2 International Cooperation on Fossil Fuel Subsidy Reform Picking up Pace

Since 2009, such efforts have also been picking up speed at the international level. Significant groups of countries in different forums have pledged to rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption, in many cases drawing attention to the importance of the provision of targeted support for the poorest populations. Such commitments have been expressed by G7, G20, and APEC economies (APEC, 2021b; G7, 2022; G20, 2021). The G20 and APEC have also established peer review mechanisms that have allowed them to collect some of their members' fossil fuel subsidies and discuss their pathways to reform.<sup>11</sup> In 2021 APEC trade ministers also sought policy options for possible voluntary standstill commitments (APEC, 2021a).

Within a smaller grouping, in 2019 New Zealand, Costa Rica, Fiji, Iceland, Norway, and Switzerland launched the Agreement on Climate Change, Trade and Sustainability (ACCTS) negotiations that aim, among other goals, to establish disciplines eliminating harmful fossil fuel subsidies.<sup>12</sup> Fossil fuel subsidy reform found its way into the free trade agreements between New Zealand and the United Kingdom,<sup>13</sup> the European Union and New Zealand,<sup>14</sup> and the European Union and Singapore.<sup>15</sup>

## 3.3 Fossil Fuel Subsidy Reform at the WTO

Fossil fuel subsidy reform conversations have also reached the WTO, which is widely seen as a natural fit for any broader subsidy-related discussions at the international level. The WTO serves not only as the custodian of the Agreement on Subsidies and Countervailing Measures, setting the multilateral definitions and legally binding rules governing the use of subsidies, but also as the negotiating forum which in June 2022 managed to conclude a second multilateral subsidies agreement—the Agreement on Fisheries Subsidies (or Fisheries Subsidies Agreement). In December 2017 during the Eleventh WTO Ministerial Conference (MC11), a group of 12 ministers of WTO members signed a joint statement committing “to advance discussion ... aimed at achieving ambitious and effective disciplines on inefficient fossil fuel subsidies that encourage wasteful consumption,” largely mirroring the language already seen in the statements and pledges of the G7, G20, and APEC. This has now grown

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<sup>11</sup> G20 peer reviews are available for the United States, China, Germany, Mexico, Indonesia, Italy, Argentina, and Canada, whereas APEC peer reviews have been concluded and are available for Chinese Taipei, New Zealand, Peru, and the Philippines.

<sup>12</sup> New Zealand's Ministry of Foreign Affairs and Trade provides regular updates from the ACCTS negotiating rounds here: <https://www.mfat.govt.nz/en/trade/free-trade-agreements/trade-and-climate/accts-negotiating-rounds/>

<sup>13</sup> The full Environment chapter of the New Zealand–United Kingdom Free Trade Agreement can be found here and includes Article 22.8 covering the fossil fuel subsidy reform commitments: <https://www.mfat.govt.nz/assets/Trade-agreements/UK-NZ-FTA/Chapters/Chapter-22-Environment.pdf>

<sup>14</sup> The Trade and Sustainable Development Chapter of the EU–New Zealand Trade Agreement can be found here: <https://circabc.europa.eu/ui/group/09242a36-a438-40fd-a7af-fe32e36cbd0e/library/5b1523f5-4758-4ce5-892a-9c4828063d69/details>

<sup>15</sup> The Trade and Sustainable Development Chapter of the EU–Singapore Free Trade Agreement can be found here: [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1114\(01\)&from=EN#page=96](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1114(01)&from=EN#page=96)





to a 47-member-strong initiative, with a revised Ministerial Statement (WTO, 2021) and Workplan for 2022–2023 (WTO, 2022a) adopted in the run-up to MC12 in June 2022. It is important to note that discussions on fossil fuel subsidy reform are also ongoing in the Trade and Environmental Sustainability Structured Discussions initiative—another environment-oriented initiative currently consisting of 74 WTO members (WTO, 2022b).

Table 1 summarizes the key international fossil fuel subsidy reform commitments made by different groups and outlines the actions taken so far to achieve their goals.

**Table 1.** Fossil fuel subsidy reform: Examples of international cooperation

Venue	Year	Goal	Actions taken
<b>G20</b>	2009	Medium-term rationalization and phasing out of inefficient fossil fuel subsidies that encourage wasteful consumption, while providing targeted support for the poorest.	Peer reviews completed for the United States and China, Germany and Mexico, Indonesia and Italy; Argentina and Canada, India and France have also committed to peer reviews in the future.
<b>G7</b>	2009	Phasing out inefficient fossil fuel subsidies that lead to wasteful consumption; encouraging all countries to do so by 2025.	Phase-out date set for 2025, progress report in 2023, possible joint inventories, pledge to end new international fossil fuel finance by the end of 2022.
<b>APEC</b>	2009	Rationalization and phasing out of inefficient fossil fuel subsidies that encourage wasteful consumption while recognizing the importance of providing those in need with essential energy services. Regional capacity building.	Four peer reviews have been completed and are available. Exploring options for voluntary standstill.
<b>ACCTS</b>	2019	Disciplines to eliminate harmful fossil fuel subsidies will help remove the perverse effects of these environmentally harmful and socially regressive subsidies.	Nine negotiating rounds; work proceeding in fossil fuel subsidies' working group.



Venue	Year	Goal	Actions taken
<b>United Nations Framework Convention on Climate Change (UNFCCC)</b>	2021	Accelerated efforts toward the phase-down of unabated coal power and phase-out of inefficient fossil fuel subsidies. Targeted support to the poorest and most vulnerable in line with national circumstances and recognizing the need for support toward a just transition (26th Conference of the Parties to the United Nations Framework Convention on Climate Change decision).	At the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change, 39 governments and public finance institutions committed to ending all new support for unabated coal, oil, and gas by the end of 2022, signing the Statement on International Public Support for the Clean Energy Transition (the “Glasgow Statement”).
<b>FFSR Joint Ministerial Statement</b>	2021	Ambitious and effective disciplines on inefficient fossil fuel subsidies that encourage wasteful consumption, including through enhanced WTO transparency and reporting.	Initiative launched December 2021, workplan adopted; options to advance this issue at the WTO to be presented by MC13.

Source: Author's table.

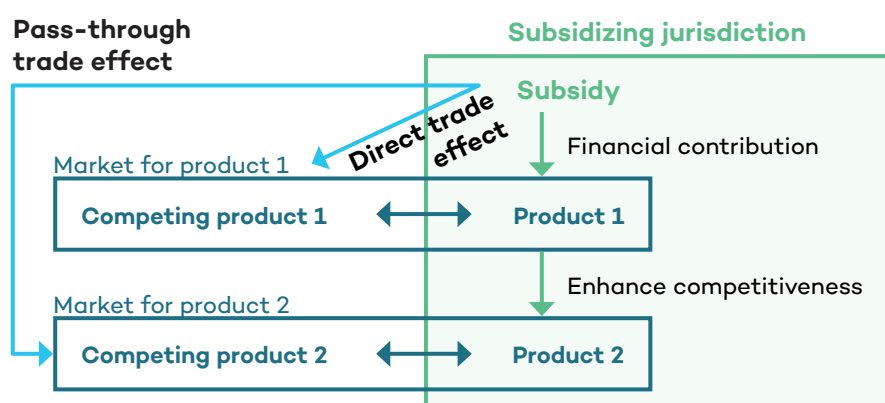


## 4.0 Trade Impact of Fossil Fuel Subsidies

Many fossil fuel subsidies have clear distortive effects on trade due to their direct and indirect impacts on trade and investment decisions, creating a competitive advantage for the products or jurisdictions that benefit from the subsidies the most.

Subsidies, as noted above, can occur at different stages of the fossil fuel product value chain, which means they can impact the competitiveness of various products and different markets in different manners. A single subsidy can impact several different markets, and a single market can be impacted by several fossil fuel subsidies (Moerenhout & Irschlinger, 2020).

**Figure 6.** The pass-through trade effect of fossil fuel subsidies



Source: Moerenhout and Irschlinger, 2020.

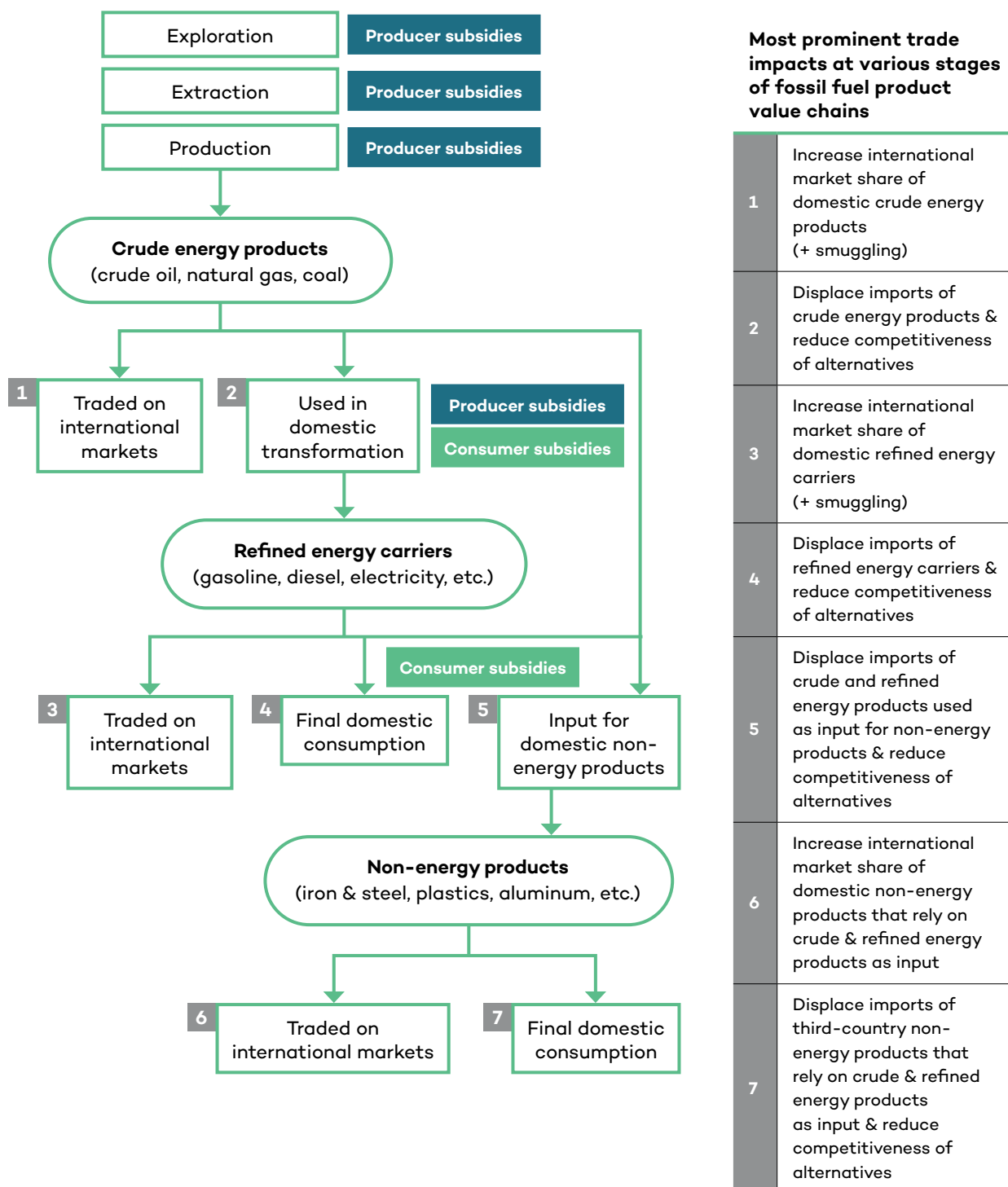
The direct trade effects of fossil fuel subsidies are easy to understand. A financial contribution or price/market controls directed toward a specific product can create a benefit in the form of a competitive advantage that the producer of such a product would enjoy against un- or less-subsidized competitors producing like products. Fossil fuel subsidies enhance the competitiveness of subsidized products both in the subsidizing jurisdiction and in other markets (“Market for product 1” in Figure 6). They also enhance its competitiveness against alternative or like products, especially when such subsidies are used to start or maintain production in circumstances that would make fossil fuel extraction less profitable (Moerenhout & Irschlinger, 2020).

Moreover, the adverse effects on trade can also manifest more indirectly and can accumulate further downstream in the value chain of fossil fuel products. Even though some producers may not be directly subsidized, they may enjoy cheaper inputs into their production process as a result of subsidies provided upstream to fossil fuel producers, thus conferring on them a comparative advantage against competitors (“Market for product 2” in Figure 6). Having access to below-cost energy inputs, preferential transport costs, or subsidized electricity could be converted to increased market share, displacing a competitor’s imports in their own or a third-country market, as well as in the reduced attractiveness of alternative products. Midstream and downstream markets in which such “pass-through” effects of fossil fuel subsidies may occur include those of transport fuels (gasoline, diesel, and jet kerosene),



grid-scale electricity generation, energy-intensive industries (iron and steel, cement, fertilizer, petrochemicals, paper), and electricity-intensive industries (aluminum, steel, and other non-ferrous metals).

**Figure 7.** Trade impacts of fossil fuel subsidies at various stages of fossil fuel product value chains



Source: Moerenhout & Irschlinger, 2020.



While each value chain is different, Figure 7 provides an illustration of how fossil fuel subsidies can have an impact on competitiveness and trade at various stages of the value chains of fossil fuel products or products using fossil feedstock in their own or in international markets. The scheme also shows the cumulative effect that fossil fuel subsidies can have, in particular regarding the production of the highest value-added products, furthest away downstream from fossil fuel production. This becomes particularly clear when comparing all possible subsidies for crude energy products to those for non-energy products.

Paradoxically, while this might be a questionable fiscal policy, some fossil fuel subsidies, especially those upstream fossil fuel production (“Exploration,” “Extraction,” and “Production” in Figure 7), are often not considered overly harmful from the international trade point of view, and in particular in the environment of rising oil and gas prices when those products are traded in international markets (see “1. Traded on International Markets” in Figure 7), as they might also be benefitting the downstream consumers and producers that buy such cheaper fossil fuel products in the countries where they are exported. This view, however, does not take into account the underlying rationale for fossil fuel subsidy reform, namely the need to move to a low-carbon economy and to promote the use of cleaner energy, as this necessary shift is being disincentivized by such subsidies.





## 5.0 Fossil Fuel Subsidies and the WTO Subsidy Disciplines

The WTO is the home of the only multilateral agreement in force<sup>16</sup> on subsidies providing legally binding rules governing the use of subsidies and remedies to counter their trade-distorting effects, namely the WTO Agreement on Subsidies and Countervailing Measures (ASCM). Article 1 of the ASCM established the definition of “subsidy” that is most commonly used when discussing fossil fuel subsidies.

### Box 1. The WTO definition of “subsidy”

The WTO members recognize a subsidy as a “financial contribution by a government or any public body” or “any form of income or price support” that confers a “benefit” to the recipient. Such financial contribution can take the form of

1. [...] Direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);
2. Government revenue that is otherwise due [but that] is foregone or not collected (e.g. fiscal incentives such as tax credits);
3. [...] Goods or services other than general infrastructure, or purchase[d] goods;
4. [...] Payments to a funding mechanism [by either the government or a private body directed by the government on its behalf]. (WTO, 1995, art. 1, 1.1, p. 229)

The ASCM’s disciplines and transparency requirements are mostly focused on enterprise-, industry-, or geographic region-specific subsidies, except for a limited set of prohibited subsidies, that are deemed to be specific and face the strongest disciplines due to their highly distortive nature.

Production subsidies for fossil fuels are more likely to meet the specificity criteria than subsidies for fossil fuel consumption, which are much more common and can diffuse a broad range of consumers, such as under-pricing of fuels for domestic users or dual pricing schemes (van Asselt & Moerenhout, 2020).

It is important to note that the ASCM’s disciplines hinge on the subsidies’ trade effects, and not on their impacts on climate change, air pollution, or sustainable development. However, many fossil fuel subsidies are notified, some are raised and discussed in the members’ trade policy reviews and other WTO committees (notably the Committee on Trade and Environment and the ASCM Committee), and some government support measures for fossil fuels have been discussed in the context of trade remedy investigations or WTO dispute settlement cases.

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<sup>16</sup> At the time of this writing, the negotiations on the WTO’s Agreement on Fisheries Subsidies were just concluded during the MC12 in Geneva, June 12–17, 2022; however, the agreement has yet to come into force.



The conclusion of fisheries subsidies negotiations at MC12 in June 2022 demonstrated that the WTO is ready to engage more actively in issues of sustainable development (WTO, 2022c). Even more importantly, while this new agreement uses ASCM's definitions, the Fisheries Subsidies Agreement's disciplines are based on environmental considerations, restraining the most harmful types of subsidies, and installing prohibitions in the most dangerous situations where subsidies would otherwise be provided to illegal, unreported, and unregulated fishing, to overfished stocks, or to fishing in the unregulated high seas where no fisheries management regime can be applied. This demonstrates the readiness of WTO members to create new rules addressing subsidies that have a significant environmental rather than trade-distorting impacts. The experience of fisheries subsidies negotiations is likely to inform any further trade and environment negotiating processes and will certainly serve as a useful reference for discussions on fossil fuel subsidy reform.



## References

- Asia-Pacific Economic Cooperation. (2021a). *APEC ministers responsible for trade meeting joint statement*. [https://www.apec.org/meeting-papers/sectoral-ministerial-meetings/trade/2021\\_mrt](https://www.apec.org/meeting-papers/sectoral-ministerial-meetings/trade/2021_mrt)
- Asia-Pacific Economic Cooperation. (2021b). *Aotearoa plan of action* (Annex to 2021 APEC Economic Leader's Declaration). <https://www.apec.org/meeting-papers/leaders-declarations/2021/2021-leaders-declaration/annex-aotearoa-plan-of-action>
- Coady, D., Flamini, V., & Sears, L. (2015). *The unequal benefits of fuel subsidies revisited: Evidence for developing countries* (IMF Working Paper WP/15/220). <https://www.imf.org/external/pubs/ft/wp/2015/wp15250.pdf>
- Fossil Fuel Subsidy Tracker. (n.d.). <http://www.fossilfuelsubsidytracker.org>
- G7. (2022, June 28). G7 leaders' communiqué. <https://www.g7germany.de/resource/blob/974430/2062292/9c213e6b4b36ed1bd687e82480040399/2022-07-14-leaders-communiqué-data.pdf?download=1>
- G20. (2021). *G20 Rome leaders' declaration*. <https://www.consilium.europa.eu/media/52730/g20-leaders-declaration-final.pdf>
- Gould, T., Adam, Z. (Lead authors), & Walton, M. (Contributor). (2020). *Low fuel prices provide a historic opportunity to phase out fossil fuel consumption subsidies*. International Energy Agency. <https://www.iea.org/articles/low-fuel-prices-provide-a-historic-opportunity-to-phase-out-fossil-fuel-consumption-subsidies>
- International Renewable Energy Agency & Copenhagen Centre on Energy Efficiency. (2015). *Synergies between renewable energy and energy efficiency* (Working paper). <https://www.irena.org/publications/2015/Aug/Synergies-between-Renewable-Energy-and-Energy-Efficiency>
- Kuehl, J., Bassi, A., Gass, P., & Pallaske, G. (2021). *Cutting emissions through fossil fuel subsidy reform and taxation*. Global Subsidies Initiative, International Institute for Sustainable Development. <https://www.iisd.org/system/files/2021-07/cutting-emissions-fossil-fuel-subsidies-taxation.pdf>
- Koplow, D. (2009). *Measuring energy subsidies using the price-gap approach: What does it leave out?* [Trade, Investment and Climate Change Series]. International Institute for Sustainable Development. [http://www.iisd.org/gsi/sites/default/files/bali\\_2\\_copenhagen\\_ff\\_subsidies\\_pricegap.pdf](http://www.iisd.org/gsi/sites/default/files/bali_2_copenhagen_ff_subsidies_pricegap.pdf)
- Koplow, D., & Steenblik, R. (2022). *Protecting nature by reforming environmentally harmful subsidies: The role of business*. Earth Track. <https://www.earthtrack.net/document/protecting-nature-reforming-environmentally-harmful-subsidies-role-business>
- Moerenhout, T., & Irschlinger, T. (2020). *Exploring the trade impacts of fossil fuel subsidies*. Global Subsidies Initiative, International Institute for Sustainable Development. <https://www.iisd.org/system/files/publications/trade-impacts-fossil-fuel-subsidies.pdf>



- Myllyvirta L. (2020). *Quantifying the economic costs of air pollution from fossil fuels*. Centre for Research on Energy and Clean Air. <https://energyandcleanair.org/wp/wp-content/uploads/2020/02/Cost-of-fossil-fuels-briefing.pdf>
- Organisation for Economic Co-operation and Development. (2021). *OECD Inventory of Support Measures for Fossil Fuels*. <https://www.oecd.org/fossil-fuels/>
- Organisation for Economic Co-operation and Development & International Energy Agency. (2022). *Support for fossil fuels almost doubled in 2021, slowing progress toward international climate goals, according to new analysis from OECD and IEA*. <https://www.oecd.org/environment/support-for-fossil-fuels-almost-doubled-in-2021-slowing-progress-toward-international-climate-goals-according-to-new-analysis-from-oecd-and-iea.htm>
- Sanchez, L., Wooders, P., Mostafa, M., & Bechauf, R. (2020, August 19). 53 ways to reform fossil fuel consumer subsidies and pricing. *Global Subsidies Initiative, International Institute for Sustainable Development*. <http://www.iisd.org/gsi/subsidy-watch-blog/53-ways-reform-fossil-fuel-consumer-subsidies-and-pricing>
- Taylor, M. (2020). *Energy subsidies: Evolution in the global energy transformation to 2050*. International Renewable Energy Agency. Energy subsidies: Evolution in the global energy transformation to 2050 ([irena.org](http://irena.org))
- Timperley, J. (2021). Why fossil fuel subsidies are so hard to kill. *Nature* 598, 403–405. <https://www.nature.com/articles/d41586-021-02847-2>
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development* (A/RES/70/1). [https://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)
- United Nations Environment Programme. (2019). *Measuring fossil fuel subsidies in the context of the sustainable development goals*. <https://wedocs.unep.org/bitstream/handle/20.500.11822/28111/FossilFuel.pdf>
- van Asselt, H., & Moerenhout, T. (2020). *Fit for purpose? Toward trade rules that support fossil fuel subsidy reform and the clean energy transition*. Nordic Council of Ministers. <https://www.norden.org/en/publication/fit-purpose>
- World Trade Organization Agreement on Subsidies and Countervailing Measures, 1995. [https://www.wto.org/english/docs\\_e/legal\\_e/24-scm.pdf](https://www.wto.org/english/docs_e/legal_e/24-scm.pdf)
- World Trade Organization. (2021). *Ministerial statement on fossil fuel subsidies* (WT/MIN[21]/9/Rev.1). <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN21/9r1.pdf&Open=True>
- World Trade Organization. (2022a). *Ministerial statement on fossil fuel subsidies* (WT/MIN[22]/8). <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN22/8.pdf&Open=True>
- World Trade Organization. (2022b). *Members deepen discussions on trade and environmental sustainability*. [https://www.wto.org/english/news\\_e/news22\\_e/tessd\\_18may22\\_e.htm](https://www.wto.org/english/news_e/news22_e/tessd_18may22_e.htm)
- World Trade Organization. (2022c). *DG Okonjo-Iweala: “The world expects us to keep delivering.”* [https://www.wto.org/english/news\\_e/news22\\_e/hod\\_08jul22\\_e.htm](https://www.wto.org/english/news_e/news22_e/hod_08jul22_e.htm)

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