Report

Reforming global fossil fuel subsidies: How the United States can restart international cooperation

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Globally, governments spend more than $500 billion on subsidies for fossil fuels that contribute to inefficiency, inequity, and negative externalities. Despite this obvious problem, efforts at reforming fossil fuel subsidies across the world have been piecemeal. If countries are to achieve the decarbonization goals of the Paris Agreement on climate change, they need to urgently address these subsidies as part of the transition away from fossil fuels.

In doing so, countries need to accurately measure all types of support offered to fossil fuels and devise solutions accordingly. This means that they need to identify and tackle both production and consumption subsidies. Production subsidies increase the profitability of extracting and transporting fuels, usually by offering tax breaks, production credits, or accelerated depreciation for capital investment. The Organization for Economic Cooperation and Development (OECD) found that production subsidies increased by 30% in 2019, reversing a five-year downward trend. On the other hand, consumption subsidies, which make energy products cheaper for end consumers, declined on average but rose in key economies like India.

The United States now has a unique opportunity to lead this global effort. President Joe Biden's executive order for government agencies to stop fossil fuel subsidies and the United States' renewed commitment to the Paris Agreement serve as strong commitments to domestic reform. By leveraging these signals, making tangible progress, and showing that it has every intention of eliminating subsidies, the United States can then credibly push for international reform as well.

To lead a global subsidy reform effort, the United States should first use the Group of Twenty (G20) to create a working group that develops a collective reform strategy, with the buy-in and participation of members. Second, the United States can recommend that countries, including itself, concretely link reform strategies with their Nationally Determined Contributions under the Paris Agreement. Lastly, it should develop a program to provide Least Developed Countries (LDCs) with technical and financial assistance to remove subsidies while also promoting economic recovery and growth.

The Trouble with Fossil Fuel Subsidies

The sheer scale of subsidies makes them an important pillar of the fossil fuel industry. The International Institute for Sustainable Development (IISD) found that production subsidies by the G20 countries averaged $290 billion annually during 2017-2019. Of this amount, almost 95% went towards oil and gas, with a relatively small amount earmarked for coal. Similarly, in 2019, global consumption subsidies stood at around $320 billion. Once more, oil subsidies were the largest component, followed by electricity, natural gas, and then coal. While these subsidies have declined over the past several years—consumption subsidies were over $500 billion in 2013—they are still far higher than they should be.

Table 1: A snapshot of consumption subsidies (IEA)

Country	**Consumption subsidies (Real 2019 USD)**
Iran	$86.1 billion
China	$30.5 billion
Saudi Arabia	$28.7 billion
Russia	$24.1 billion
India	$21.9 billion

These subsidies are problematic for four key reasons. First, they create market distortions by artificially lowering the price of fossil fuels, which leads to overconsumption, particularly in energy and capital-intensive industries like power and transport. A 2014 study estimated that global fuel subsidies generated $44 billion in deadweight loss each year; over 70% of this came from the four countries with the largest fuel subsidy expenditures (Saudi Arabia, Venezuela, Iran, and Indonesia).

Second, production and consumption subsidies create negative externalities. These subsidies increase the use of fossil fuels, which causes a range of adverse environmental and health impacts. Externalities due to air pollution from fossil fuels range between $2.6 trillion to $8.1 trillion globally and are felt most acutely in developing and emerging countries such as Ethiopia, Kenya, Nigeria, and India.

Third, consumption subsidies have also been ineffective in alleviating inequity. Since these subsidies typically do not vary by income, most of the benefits are accrued by wealthier households that already have high consumption levels. In Indonesia, for example, the World Bank found that the richest decile of households consumed 40% of subsidized gasoline, while the poorest decile consumed less than one percent. Instead of subsidies, other policies such as direct benefit transfers have been found to be more effective in achieving developmental objectives.

Finally, subsidies are not the best use of public finances, which can be better directed towards sectors like social protection, healthcare, education, and the environment. The IEA found that 17 out of a sample of 40 countries spent more than two percent of their GDP on consumer energy subsidies in 2017. In Malaysia and Indonesia, government spending on subsidies exceeded that of social programs and services.

So, if subsidies are problematic and alternatives exist, why has reform been so slow? The reality is that fossil fuels, as the incumbent in the energy sector, have had decades of systemic support and have amassed political power. There is also pushback from consumers and producers impacted by the reform.

For consumers, removing consumption subsidies immediately raises the price of energy. And when energy prices increase, the cost of many other goods and services also goes up. Opposition to such inflation is evident by the waves of protest and public unrest in response to an increase in electricity prices in Morocco in 2015 and gasoline price hikes in Mexico in 2017. Knowing this, politicians are unlikely to push for reform since people's dissatisfaction will negatively impact their chances of reelection.

Production subsidies are also preserved because of interest group politics. In some countries, fossil fuel industries play a large role in the economy, so removing subsidies can make domestic output more expensive and increase unemployment. This is partially why the Indian government has opted to retain subsidies for coal mining and stranded coal assets despite coal becoming increasingly uncompetitive. In addition, many lobbying groups devote time and resources to promoting policies that favor fossil fuel production on behalf of large oil and gas corporations. This is especially common in Canada, Europe and the United States. Similarly, rich fossil fuel producers will often support political candidates that advance their interests, further embedding themselves in the system.

These factors create multiple barriers to implementing and sustaining subsidy reform. The G20 countries, for example, have been announcing that they will remove inefficient subsidies every year since 2009, and subsidy reform is explicitly stated under Sustainable Development Goal (SDG) 12 regarding responsible consumption and production. However, subsidies persist, and the IISD found that none of the G20 countries were on track to achieving their fossil fuel subsidy phaseout commitments. Any reductions in consumption subsidies can mostly be attributed to an average decrease in oil prices and not subsidy reform.

Fossil Fuel Subsidies in the United States: Current Status and the Need for Reform

President Biden has made it clear that tackling subsidies for fossil fuels is a priority for his administration and addressed the issue in a January executive order, as well as in his recent infrastructure package and tax plan. While this is an opportunity to greatly advance domestic subsidy reform, the commitments also lend an air of legitimacy to any U.S. efforts to drive global action for reform in tandem with removing its own subsidies.

To lead global subsidy reforms, the United States will have to strengthen these commitments by actively dismantling its own substantial production subsidies. The Environmental and Energy Study Institute reported that direct subsidies to the fossil fuel industry totaled $20 billion per year, with 80% going toward oil and gas. In addition, from 2019 to 2023, tax subsidies are expected to reduce federal revenue by around $11.5 billion. Considering that production subsidies grew 28% between 2017 and 2019, the United States will be under a lot of scrutiny from other countries wanting to see evidence of reform before making their own commitments.

This is a challenging task for the United States because production subsidies are embedded in the tax code and promote fossil fuels in a variety of ways. For example, producers can deduct a fixed percentage of gross revenue instead of their actual costs as capital expenses, deduct exploration and development costs, amortize geological and geophysical expenditures, and benefit from accelerated depreciation of natural gas infrastructure. Oil and gas companies are also permitted to use the Last In, First Out (LIFO) accounting method to sell their most recent and expensive reserves first, thereby reducing the value of their inventory. Other incentives include foreign tax credits and energy production credits.

The actual list of direct and indirect subsidies is far more expansive and illustrates the high level of support that fossil fuels have received for years. In the past, this was justifiable to some extent. Without any alternatives, scaling up domestic fossil fuel production was part of the United States' aggressive push for energy security following the OPEC oil embargo in 1973. But having moved past the crisis, that line of reasoning is becoming more difficult to justify; today, continuing production subsidies is not a judicious use of public finances.

Accordingly, since 2012 there have been several efforts in Congress to address tax breaks and benefits for fossil fuel production in the United States. This is necessary because key production subsidies are embedded in legislation, namely the tax code. Representatives have sponsored bills aiming to eliminate a variety of deductions that oil and gas producers could claim, remove production credits, and address other issues such as coal mining in the Powder River Basin and the Black Lung Disability Trust Fund. However, none of the bills made it past Senate, and several of them are still pending with various House or Senate committees for consideration.

While President Biden is already pursuing executive orders to promote reform, he can now also push for legislative action to eliminate subsidies in the tax code. With only a slight margin in Congress, though, passing these bills will be difficult, and the Biden administration may need to get creative. One approach is to garner bipartisan support by incorporating certain aspects of subsidy reform in a larger deal, like the $2.3 trillion infrastructure package. This may require trade-offs or concessions in other areas to favor subsidy reform instead. Another option is to use the budget reconciliation process to enact legislation. Doing so would mean the bill only needs a simple majority to pass in the Senate but would restrict its scope to strictly budgetary aspects.

In the interim, President Biden should continue to pass strong executive orders, like stating that federal funding should not directly subsidize fossil fuels. In addition, he can direct the Department of Justice to eliminate tax deductions available to oil and gas companies for natural resource damages as well as revoke federal funding for maintaining shipping lanes used to transport fossil fuels. Taking a multipronged approach is an effective way to ensure that subsidy reform remains a priority for the administration.

Restarting Global Fossil Fuel Subsidy Reform: An Agenda for the Biden Administration

Bold action by the Biden administration to address subsidies sends a strong and credible signal that the United States is invested in the clean energy transition. Successfully working to dismantle these subsidies also allows the United States to rejoin global climate action by leading fossil fuel subsidy reform at the global level.

Toward this end, the G20 provides a promising platform to reinvigorate subsidy reform. It includes some of the largest subsidizers, such as Russia and Saudi Arabia, and was also one of the first international groups to highlight the importance of phasing out and rationalizing inefficient fossil fuel subsidies during the Pittsburgh Summit in 2009. The G20 reaffirmed this decision in 2013 at the St. Petersburg Summit. In response, some member countries including the United States, China, Germany, and Mexico published peer reviews while others, like Saudi Arabia and India, implemented price rationalization and subsidy cuts.

Unfortunately, without clear commitments or strategies, the G20's initiatives have not been very effective. In the ten years hence, the absolute value of subsidies remains high at $584 billion and the group's efforts have stalled. But now, with the United States' return to the fray, it can direct the G20 to push for a far more coordinated and effective transition away from fossil fuels.

Because of President Biden's ambitious plans to reduce domestic production subsidies, the United States is for the first time in a position to lead by example. It will be acting in accordance with a recommendation by Professor Lord Nicholas Stern, where he calls on the G7's leadership to promote structural policies and targets that encourage the phaseout of fossil fuels by 2025.

To do this, the United States must first establish a working group of G20 members that can collectively drive subsidy reform. A key opportunity for this is the G20 Heads of State and Government Summit that is being held in Rome at the end of October. This convening will be important in determining global strategies for economic recovery and growth, and the United States can call for the creation of a working group as part of the meeting's agenda. The working group would be responsible for creating frameworks for monitoring and accountability through multilateral peer review processes, knowledge sharing, and transparent reporting initiatives.

Second, the United States can also ramp up its involvement in the Paris Agreement on Climate Change by proposing linkages between subsidy reform and countries' Nationally Determined Contributions (NDCs). In fact, considering the growing global attention to climate change, linking a G20 reform effort to countries' climate pledges will go a long way in promoting credibility. In 2019, it was found that only 14 countries pledged to reform fossil fuel subsidies in their NDCs even though around 80 countries had some kind of subsidy in place. Even after revising their NDCs in 2020, there was no increase in ambition for subsidy reform, and two countries backtracked on commitments. Only a few countries like Colombia, Ethiopia, and Singapore outlined strategies for using revenues from reducing fossil fuel subsidies to meet their NDCs.

The United States has also failed to include subsidy reform in its revised NDC commitments; however, if it can remedy this over the next few months, it will serve as a strong signal of climate commitment and encourage other G20 members to do the same. When doing so, the United States can also utilize and advocate for strategies that improve the effectiveness of commitments. The Baker Institute for Public Policy at Rice University lays out some best practices that the United States can promote:

- Implement full reforms in a sequence of gradual steps, with an overall timeline of five to ten years for subsidy phaseout and clear targets for each step.
- Employ specific language in the NDCs that clearly indicate which fuels are being targeted and what benchmark will be used to evaluate progress.
- Where possible, codify reform pathways in regulation or legislation to prevent backsliding.
- Use direct cash transfers instead of subsidies to maintain benefits for low-income groups.
- Ensure transparency in price-setting, central government budgeting and the accounting of subsidies.

To further support this, the United States can organize review meetings and create an independent task force that helps G20 countries frame and implement their NDCs and structure reporting frameworks for accountability. In leading this initiative, the United States benefits by having a more robust subsidy phaseout and showcasing its ability to drive international change. These efforts are different from those in the past because the Biden administration can now credibly commit the United States to a rigorous peer-review process and strengthen commitments over time, giving other member countries the confidence to do the same.

Lastly, the United States can go beyond the G20 and take on a more active role in the efforts of Least Developed Countries' (LDCs) efforts to dismantle fossil fuel subsidies. They can do this by providing LDCs with technical assistance to develop subsidy phaseout plans or legal and regulatory structures to sustain reform. Additionally, the United States can also help LDCs access financing for mitigating the short-term consequences of reform. One strategy for doing so involves subsidy phaseout and reform catalyst (SPARC) bonds. These bonds can be issued on behalf of an LDC, with repayment based on savings from subsidy removal. These bonds provide LDCs with sufficiently large short-term resources, while also making it costly for them to renege on phase-out commitments. The United States can act as a guarantor, buyer, or donor to LDCs hoping to implement subsidy phaseouts using SPARC bonds.

U.S. government agencies already advocate for eliminating fossil fuel subsidies in their Economic Growth Policy and incorporate this in the programs they fund. Among them, the U.S. Agency for International Development (USAID) is a strong candidate for promoting fossil fuel subsidy reform. Fossil fuel subsidy reform is seen as a powerful tool to sustainable growth, and USAID has conducted subsidy reform peer review assessments for Peru, the Philippines, and Vietnam. USAID also builds awareness by conducting workshops on transitioning to market-based pricing and strategies for moving away from subsidies. Based on their experience and reach, USAID is a strong candidate for promoting international interventions.

Conclusion

The Biden administration should seize the opportunity to restart global fuel subsidy reform at the G20 Rome Summit later this year and directly link the effort to climate pledges under the Paris Agreement. As one of the largest producers and consumers of energy, if the United States indicates a transition away from fossil fuels, other countries are sure to follow. And by leading this effort, the U.S solidifies its commitment to decarbonization at the domestic and international level and reestablishes its role as a builder of multilateral consensus.

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