

The Case for a Global Carbon-Pricing Framework

An Agreement Is the Last, Best Hope for Averting Climate Disaster

By **Zeid Ra'ad Al Hussein** and **Farrukh Iqbal Khan**

September 11, 2023



Transmission towers in Soweto, South Africa, September 2022

Siphiwe Sibeko / Reuters

 Share

 Save

Summit in late September. The task facing the two hosts is stark: to jumpstart credible multinational action on climate change where previous summits have failed. Evidence is mounting that a climate apocalypse is coming, and fast. This past summer, large swaths of the United States and southern Europe sweltered in temperatures over 110 degrees Fahrenheit, and exceptional wildfires and floods hit Canada and South Asia.

In 2020, UN scientists still considered it unlikely that the world's average temperature would rise more than 1.5 degrees Celsius above the late nineteenth century's average—the threshold that, once crossed, would launch a phase in which the scale and speed of warming will outstrip the world's ability to predict or manage its impacts. Now, just three years later, those researchers have put the chance at 66 percent—more likely than not. The agreement forged at the 2015 Paris Climate Summit called for limiting the world's temperature increase to 1.5 degrees Celsius, yet global emissions continue to rise. Millions of people are expected to become climate refugees in this decade alone. The World Health Organization has predicted that between 2030 and 2050, an additional 250,000 people will die annually from climate-change-related malnutrition, malaria, diarrhea, and heat stress.

At climate change summits, world leaders tend to agree on almost everything except what could help the most: directly addressing rising carbon emissions by making them expensive for emitters. For decades, scientists and economists have concluded that pricing carbon is critical to reducing global carbon-dioxide emissions fast enough to combat irreversible climate change. Yet most politicians overlook or even fear carbon pricing. The fossil fuel lobby, in particular, has circulated dangerous myths about carbon pricing, including that it disadvantages developing countries.

Stay informed.

In-depth analysis delivered weekly.

[Sign Up](#)

By now, however, there is abundant proof that pricing carbon dramatically lowers emissions and even economically benefits the societies that do it. The technical and political barriers

global carbon-pricing agreement, no serious plan to tackle climate change can be made.

CARBON FOOTPRINTS

A “carbon price” is a fee attached to units of carbon emitted that encourages polluters to reduce the quantity of greenhouse gases they emit. First proposed by the Yale economist William Nordhaus in the late 1970s, pricing carbon places a monetary value on the environmental damage that carbon emissions cause. By putting a price on greenhouse gas emissions, carbon pricing intends to shift both production and consumption toward less-greenhouse-gas-intensive activities and encourage technological innovation.

Broadly speaking, there are two ways to price carbon. The first is to levy carbon taxes according to the carbon content of fossil fuels an entity uses. For example, levying a carbon tax of \$10 per ton means that a company that emits a hundred tons of carbon dioxide within a certain time frame will pay \$1,000 in taxes.

Scandinavian countries were early to adopt these taxes: in 1990, Finland imposed the first carbon tax. By 1993, Denmark, the Netherlands, Norway, and Sweden had all followed the Finnish lead. Over the last three decades, Argentina, Chile, Colombia, France, Germany, Japan, Mexico, Poland, Singapore, South Africa, and Uruguay have introduced carbon taxation, as have many subnational jurisdictions, such as the Canadian provinces of Alberta, British Columbia, and Quebec.

The second way to price carbon is to establish an emissions trading system—a market-based mechanism in which a government sets a limit on the total amount of emissions that entities under its jurisdiction can release. Companies that wish to emit more than their allocated amount may buy emissions allowances from companies that emit less. In 2005, the European Union established the first emissions trading system; the emissions cap increases every year, and supply and demand determines the price at which allowances are traded. Similar emissions trading instruments now exist in Canada, China, South Korea, the United Kingdom, and a handful of U.S. states.

THE PRICE IS RIGHT

As of April 2022, carbon-pricing instruments were in place in 46 countries. By now, nearly all developed countries have adopted some form of carbon pricing, and voluntary carbon markets—in which private actors buy and sell certified removals of or reductions in atmospheric greenhouse gases—have grown from a billion-dollar to a two-billion-dollar industry just between 2021 and 2023. This is because carbon pricing works.

In 2018, Nordhaus received a Nobel Prize, which recognized, among other accomplishments, the power of his analysis that a global rollout of carbon taxes would be the most efficient remedy for the problems caused by greenhouse gas emissions. In the near term, pricing carbon does lead to an increase in a country's energy prices and a temporary fall in its economic activity. But the data show that its long-term benefits far outweigh these initial losses.

Take Sweden. After the country introduced its carbon tax in 1991, energy prices rose and businesses especially reliant on fossil fuels were forced to close or lay off workers. But since then, the Swedish economy has grown by 50 percent, and air pollution deaths have fallen by 50 percent.

As of 2018, Sweden's greenhouse gas emissions were 27 percent lower than they were in 1990, and the country has decoupled its economic growth from a reliance on fossil fuels faster than other European countries. To date, the carbon tax has generated \$5.5 billion in revenue, allowing for tax cuts on low- and middle-income households.

Sweden has also been able to double its investment in renewable energy, making it a world leader in both the production and consumption of renewable energy products. The revenue generated from emissions trading and carbon taxes has already started playing a crucial role in many other countries' economies. According to the World Bank, these revenues are often reinvested in sustainability projects, creating a virtuous cycle: almost 40 percent of the revenue from pricing carbon is currently earmarked for green spending.

pricing is most effective when used as part of what the Intergovernmental Panel on Climate Change, a UN-affiliated group of scientists that advises governments on climate-change research, calls a “policy-driven pathway” for climate change mitigation. This pathway encompasses accelerating change away from fossil fuel reliance, deploying new low-carbon energy sources, improving energy efficiency, and encouraging more sustainable consumption habits.

STARTING BLOCKS

Despite the piecemeal rollout of carbon-pricing schemes worldwide, there is broad consensus that carbon pricing has already led to a significant reduction in greenhouse gas emissions. Yet this country-by-country approach has not nearly yielded the total impact on emissions that is required to stabilize the climate. In 2017, the High-Level Commission on Carbon Prices, convened under the aegis of the World Bank, concluded that to adequately limit warming, countries would have to price carbon at \$50 to \$100 per ton by 2030.

But public-sector carbon-pricing instruments now cover only 23 percent of global emissions. And the median international carbon tax is \$26 per ton; the median price of allowances in carbon trading systems is \$20 per ton. This median price from taxation and trading varies considerably with a country’s level of development. In the private sector, the median price that organizations worldwide now set on their own greenhouse gas emissions is \$25 per ton; like public-sector carbon prices, private-sector carbon prices vary a great deal, from \$8 to \$918 per ton.

This variation has undermined the efficacy of carbon pricing by encouraging “carbon leakage,” a phenomenon in which a targeted sector or entity simply moves its operations to a location with lower carbon prices or looser regulations. A global carbon-price framework is necessary to overcome the problem of carbon leakage and to send businesses a potent signal that they must invest in cleaner technologies and reduce their emissions wherever they operate.

Nordhaus has long argued that, to work, carbon pricing must be approached globally, and the broader scientific community stands behind economists in articulating the need for a single global carbon-pricing mechanism. Two years ago, the International Monetary Fund proposed establishing a global carbon price floor with a progressive schedule of minimum carbon prices, starting with \$25 per ton for low-income countries, \$50 per ton for middle-income countries, and \$75 per ton for high-income countries.

If this proposal had been adopted, it may have adequately reduced emissions. But politically, it was a nonstarter. Its focus on high emitters as the starting point suggested that carbon pricing could become an exclusive club in which a few countries set the rules of the game. Moreover, the high initial carbon price it recommended for developing economies was likely to place an unmanageable near-term burden on them.

SMOKE GETS IN YOUR EYES

Ironically, many countries holding out against a global deal on carbon pricing are those disproportionately bearing the cost of climate change: developing countries. A few have established carbon-pricing instruments. Indonesia will launch one later this year, and India is considering one. Generally, however, developing countries have come to see putting a price on carbon as a task for rich countries to undertake first. After all, those rich countries have higher greenhouse gas emissions, a historical responsibility for industrialization, and a greater capacity to bear the economic disruptions that could flow from increased energy prices.

For the vast majority of the developing world, pricing carbon at the level theoretically required to reduce emissions fast enough—at over \$100 per ton—is, indeed, politically and economically impossible. This initial price would make it too hard for developing countries to meet their energy needs, compete on trade, and grow economically.

But more than half a century of economic analysis and three decades of empirical evidence suggest that, in the long run, pricing carbon would be politically, economically, and socially beneficial even for the poorest countries. It drives innovation in clean energy technology and generates revenue that can alleviate poverty. It also promotes bilateral, regional, and global cooperation.

Leaders and citizens in developing countries often believe that fossil fuels are the cheapest, fastest route to alleviating poverty and growing their economies. Over several decades, the fossil fuel lobby has effectively inculcated this idea. But developing countries' opposition to carbon pricing is hurting them. The lack of a global standard allows rich countries, even those with carbon-pricing schemes, to continue emitting greenhouse gases at dramatically higher levels than poorer countries. In 2021, the average North American emitted 11 times more energy-related carbon than the average African. A global framework on pricing would dramatically reduce these discrepancies.

More than that, a global carbon-pricing framework could generate revenue for developing countries to use to help their people adapt to climate change. In the 18 years since the EU instituted its carbon-trading system, its price for carbon has tripled; the carbon price has doubled over eight years in South Korea and over five years in New Zealand. Overall, revenue from carbon pricing schemes has now reached nearly \$100 billion worldwide. This revenue is far higher than that generated by other existing climate-finance mechanisms. If even five percent of this revenue were channeled toward developing countries, that could greatly boost mitigation and adaptation efforts in the developing world.

A PRACTICAL PLAN

An agreement to implement carbon pricing worldwide is achievable at this year's climate summits if leaders make it a top priority. Previous efforts to establish a global agreement for carbon pricing have set target prices too high, making the frameworks seem daunting and politically unpalatable. But a realistic starting point exists between the ideal carbon price (\$100 per ton) and the actual median prices in developed countries (\$40 per ton) and

When establishing an international committee to design a global carbon-pricing floor under the aegis of the UN secretary-general, and including multinational finance institutions such as the World Bank and the International Monetary Fund, policymakers should first distinguish between developed and emerging markets. They should set prices in sync with current trends in those markets instead of focusing on a distinction between high and low emitters. Building on the existing median carbon price levels in developed and developing countries, the minimum price could be set in 2024 at \$10 for developing countries and \$40 for developed countries.

Although not ideal, this pricing scheme could target achieving a minimum reduction of 10 gigatons in global carbon emissions by 2030. This target would establish the first step of a visible, economically viable, and politically palatable path toward pricing carbon. The pricing framework should be accompanied by an agreement to increase the minimum price every two years to reach \$50 per ton in developing countries and \$100 per ton in developed countries by 2030.

An agreement to implement carbon pricing worldwide is achievable if leaders make it a top priority.

The proposed floor should initially target the three highest-emitting sectors: energy, transportation, and other industrial processes. The emission-reduction targets in these sectors could be suggested by industry working groups and established under the Intergovernmental Panel on Climate Change or by individual countries. World leaders must also signal that carbon pricing forms part of a broader network of solutions such as implementing existing mitigation pledges and new regulations and improving energy efficiency. And the agreement's designers should ensure that their plan dovetails well with other instruments, including measures that the EU, the United States, and other entities are contemplating to combat carbon leakage.

developing world. This fund could have up to \$10 billion to work with if developed countries contributed even a fraction of their annual revenue from their national mechanisms, with voluntary participation from high emitters such as China, India, and South Africa.

Many countries are deeply concerned with avoiding population decline; governments from Ankara to Seoul to Singapore are spending a great deal of money to encourage their citizens to have more children. But nothing is more vital to saving future generations than keeping the global temperature increase below 1.5 degrees Celsius. We have the tools and the financial resources to meet this goal. Levying a global price on carbon could be the beginning of a journey that encourages developed and developing countries to work together toward safeguarding the earth's climate. 🌍

ZEID RA'AD AL HUSSEIN is President and CEO of the International Peace Institute and the Perry World House Professor of the Practice of Law and Human Rights at the University of Pennsylvania.

FARRUKH IQBAL KHAN is a Director General in Pakistan's Ministry of Foreign Affairs and a Nonresident Adviser to the International Peace Institute. He serves on the board of the Integrity Council for the Voluntary Carbon Market.

[🔗 MORE BY ZEID RA'AD AL HUSSEIN](#)

[🔗 MORE BY FARRUKH IQBAL KHAN](#)

More: [World](#) [Diplomacy](#) [Economics](#) [Environment](#) [Climate Change](#) [Energy](#) [International Institutions](#)
[United Nations](#) [Politics & Society](#) [Global South](#)

Recommended Articles

The Missed Opportunity of Europe's Energy Crisis

Putin's Aggression Should Speed the Shift Away From Fossil Fuels

Alexander Gard-Murray, Miriam Hinthorn, and Jeff D. Colgan

The Right Way for America and China to Cooperate on Climate

How the Two Powers Can Jointly Aid Poorer Countries

Kelly Sims Gallagher



GET THE MAGAZINE
Save up to 55%
on Foreign Affairs!

[Subscribe](#)

FOREIGN AFFAIRS
Weekly Newsletter

Get in-depth analysis delivered right to your inbox

[Sign Up](#)

ABOUT

CONTACT

SUBSCRIPTION

FOLLOW

GRADUATE SCHOOL FORUM

From the
publishers of
Foreign Affairs



Women This Week: Report Exposes Sexual Enslavement of Women by Eritrean Troops in Ethiopia

Could a U.S.-Iran Deal Lead to a Nuclear Thaw?

Ray Takeyh

Published by the Council on Foreign Relations

[Privacy Policy](#) [Terms of Use](#)

©2023 Council on Foreign Relations, Inc. All Rights Reserved.