

EXECUTIVE SUMMARY

Global warming is threatening our planet and living standards around the world, and the window of opportunity for containing climate change to manageable levels is closing rapidly. Carbon dioxide (CO₂) emissions are a key driver of this alarming trend. Fiscal policy has an important role to play. This issue of the *Fiscal Monitor* argues that policymakers need to act urgently to mitigate climate change and thus reduce its damaging and deadly effects, including rising sea levels and coastal flooding, more frequent extreme weather events, and disruption to our food supply—key issues affecting all people globally.

Action to date has been inadequate. The 2015 Paris Agreement goes in the right direction, but the commitments countries have made fall well short of those needed to limit global warming to the level considered safe by scientists—2°C, at most, above preindustrial temperatures. Furthermore, it remains uncertain whether countries are reducing emissions as agreed. The longer that policy action is delayed, the more emissions will accumulate in the atmosphere and the greater the cost of stabilizing global temperatures—let alone of failing to do so. A better future is possible. The technological and policy means are available to switch from coal and other polluting fossil fuels to cleaner energy while maintaining robust economic growth and creating jobs. For the needed transformation to take place, a key challenge is to distribute its costs and benefits in a manner that can muster enough political support—both domestically and internationally.

Fiscal Policies to Mitigate Climate Change

This *Fiscal Monitor* argues that, of the various mitigation strategies to reduce fossil fuel CO₂ emissions, carbon taxes—levied on the supply of fossil fuels (for example, from oil refineries, coal mines, processing plants) in proportion to their carbon content—are the most powerful and efficient, because they allow firms and households to find the lowest-cost ways of reducing energy use and shifting toward cleaner alternatives. The burden of the tax in proportion to household consumption is moderately larger for lower-income households

than for higher-income households in some countries (for example, China and the United States), but roughly equal or slightly smaller in others (Canada, India).

This chapter analyzes the carbon prices countries must impose to implement their mitigation strategies and the tradeoffs with other mitigation instruments. Limiting global warming to 2°C or less requires policy measures on an ambitious scale, such as an immediate global carbon tax that will rise rapidly to \$75 a ton of CO₂ in 2030. Under such a scenario, over 10 years electricity prices would rise, on average, by 45 percent cumulatively and gasoline prices by 15 percent, for households, compared with the baseline (no policy action). The revenue from such a tax (1.5 percent of GDP in 2030, on average, for the Group of Twenty [G20] countries) could be redistributed, for example, to assist low-income households, support disproportionately affected workers or communities (for example, coal-mining areas), cut other taxes, fund investment in clean energy infrastructure or United Nations Sustainable Development Goals, reduce fiscal deficits, or pay an equal dividend to the whole population. This *Fiscal Monitor* compares such uses of the revenues in terms of economic efficiency and impact on income distribution. For example, carbon pricing combined with an equal dividend to the whole population rather than an income tax cut redistributes income to favor lower-income groups but forgoes gains in economic efficiency. An intermediate approach compensating, say, the poorest 40 percent of households, as well as vulnerable workers and communities, leaves three quarters of the revenues for other goals such as productive investments or cuts in income taxes.

The shift from fossil fuels will not only transform an economy but also profoundly change the lives of households, businesses, and communities. Importantly, the shift would generate additional and immediate domestic environmental benefits, such as lower mortality from air pollution (725,000 fewer premature deaths in 2030 for a \$75 a ton tax for G20 countries alone). Businesses that deploy new technologies would earn profits and create jobs, which in the renewables sector already reached 11 million globally in 2017.

If carbon taxation is not feasible, emission trading systems (auctioning or allocating emission permits that are then traded) would be equally effective if applied to as wide a range of economic activities. If neither of these mitigation strategies is available on the necessary scale, “feebates” (systems of fees and rebates on products or activities with above or below-average emission intensity) or regulations (for example, standards for emission rates and energy efficiency) could generate two thirds of the CO₂ reduction opportunities of carbon taxation. Feebates and regulations prompt people and firms to switch to greener energy but do not discourage activities that use energy. To deliver the full scale of necessary emission reduction, feebates or regulations would need to be used more aggressively, causing greater disruption to existing production processes. The economic costs of mitigating climate change through less-than-optimal tools would still be lower than the devastating effects of global warming.

International Cooperation for a Shared Future

Some advanced and emerging market economies already use carbon taxes and emission trading systems, but insufficiently. Indeed, the average price on global emissions is currently \$2 a ton, a tiny fraction of what is needed for the 2°C target. An early start to reinforce the Paris process could be made through a carbon price floor arrangement among countries with the largest emissions. This would provide a transparent target based on a common measure and reassurance against losses in international competitiveness from higher energy costs. If the top three emitters (China,

United States, India) participated, such an agreement would already cover more than half of global emissions. Low-income and emerging market economies could be provided with a lower floor or international transfers. The arrangement could accommodate different policy approaches (for example, national level emission trading systems, feebates, or regulatory approaches) with agreement on verification procedures.

Meeting temperature stabilization goals does not mean that overall global energy investment must increase much further, but it does imply an urgent need to shift energy supply investment toward low-carbon sources. This is because the infrastructure built today will determine emission levels for decades. Additional policies are needed, such as incentives for research and development, temporary fiscal incentives to promote demand for low-emission technologies until they yield sufficient economies of scale, and green bond markets to facilitate access to private capital. Businesses that are considering longer term investments, such as for power generation, must be certain about future tax and regulatory policies, so policymakers should lock in mitigation policies for as long as possible, including making commitments to the global community.

Different policy tools have pros and cons, but the climate crisis is urgent and existential, calling on key stakeholders to deploy all appropriate policy measures. Finance ministers can confront this crisis by undertaking carbon taxation or similar policies, making climate change mitigation more acceptable through complementary tax or expenditure measures, ensuring adequate budgeting for clean technology investment, and coordinating strategies internationally.