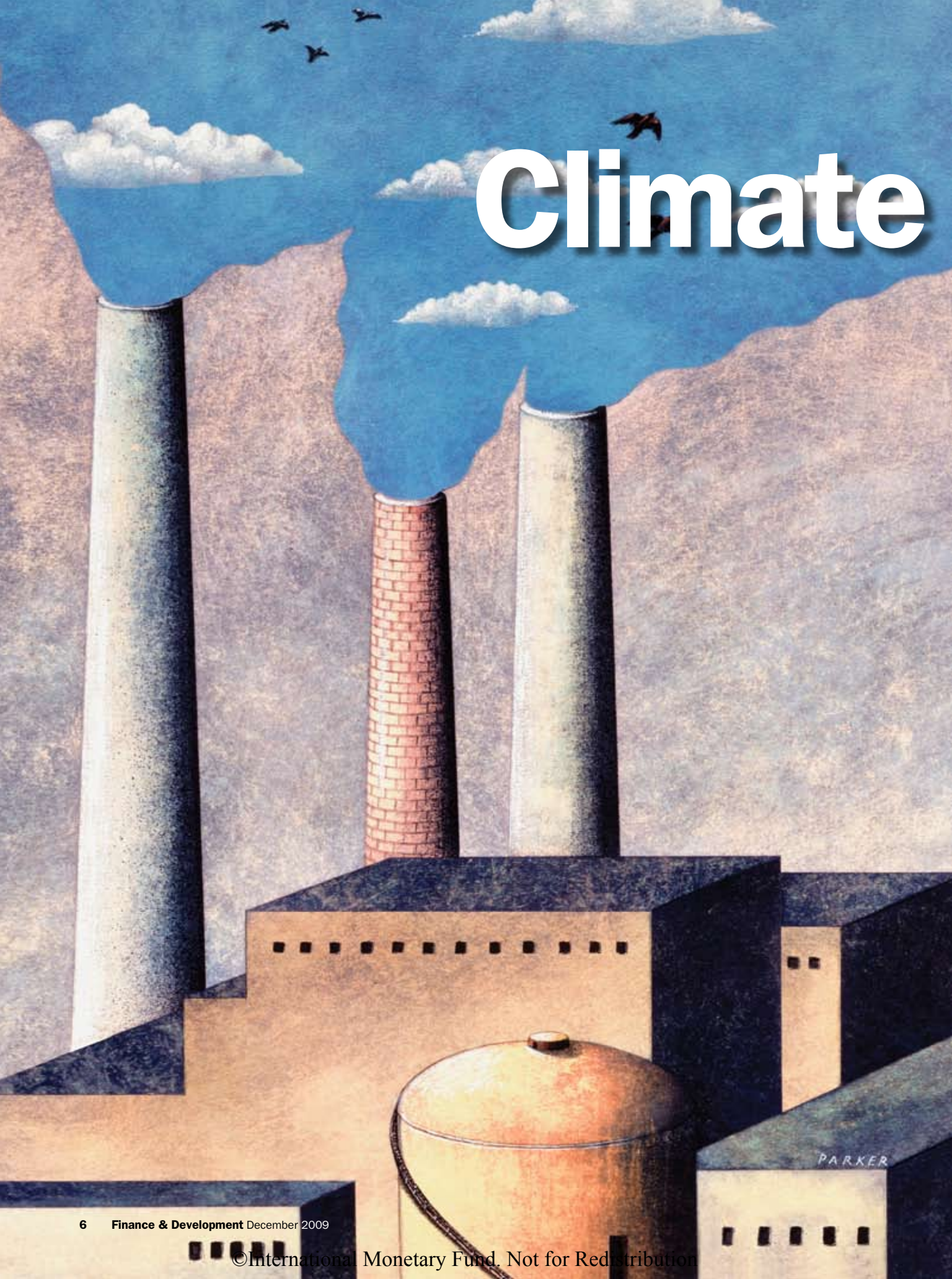
# Climate



# Policy in Hard Times

*Benjamin Jones and Michael Keen*

**Restoring economic growth after the global financial crisis need not thwart the fight against climate change**

EFFORTS to negotiate a successor to the Kyoto Protocol, and to form domestic climate policies, have intensified in recent months and are now at a critical and difficult point. At the same time, policymakers are searching for new sources of sustainable growth to recover from the deepest economic crisis in decades, and in many cases also the means to cope with severe fiscal pressures exacerbated by the crisis.

What are the interactions between these two challenges—making climate policy and dealing with a worsened macroeconomic outlook? How should the challenges of recovery affect climate policy? And how should climate concerns be reflected in macroeconomic and fiscal policies over the short and longer terms?

## Mitigation policy and crisis recovery

The crisis has had major effects on the global economy, but the need to combat climate change—outlined, for example, in the *Fourth Assessment Report: Climate Change 2007* of the United Nations Intergovernmental Panel on Climate Change—remains urgent. And current policy responses are generally acknowledged to be inadequate.

The decline in economic activity as a result of the crisis could cut global greenhouse gas emissions by more than 2.5 percent in 2009, after rapid increases in recent years, according to the International Energy Agency (IEA). But the serious damage of climate change arises not from the *flow* of greenhouse gas emissions but from the accumulated *stock*. The sheer scale of the existing stock and its very slow decay mean that even quite large reductions in emissions over the short term will do little to reduce the damage to be expected from climate change. For that, a massive change in the underlying trend of emissions is needed.

The downturn has not affected the market failures that underlie the climate problem—most important, that polluters do not bear the full costs of emissions. Even with the mitigating effects of the crisis, in the absence of additional policy intervention global emissions could rise by 40 percent by 2030. Broader and deeper international measures to raise the cost to firms and households of emitting greenhouse gases must remain a priority.

The need to restore economic prosperity after the crisis may have weakened political support for climate mitigation measures—centered on strong and broad carbon pricing to address basic market failures—which could increase production costs and reduce household incomes. And the effects could be persistent: compromising climate policy objectives when times are hard could seriously undermine, for example, the credibility of future emissions pricing, which is a critical guide to efficient long-term energy investments. Hasty investment decisions to stimulate recovery could make reducing future emissions even harder.

Current macroeconomic weaknesses do not warrant less ambitious abatement objectives. If anything, for two reasons, they argue for the opposite. First, the marginal costs of mitigation have fallen (permit prices in the European Union Greenhouse Gas Emission Trading System—EU ETS—are at roughly half their 2008 peak). The large drop in aggre-

gate demand that underpins these trends may of course be short lived relative to climate policy horizons, but the point remains: lower private abatement costs mean that emission targets should, in principle, be tighter rather than looser.

Second, and perhaps more important, lower energy prices present an opportunity to introduce and lock in some element of carbon pricing. While there will be opposition to increasing the fiscal burden, this is a good time for countries with controlled fuel prices, in particular, to adopt automatic pricing mechanisms that embody a green tax element. The recent uptick in medium-term fossil fuel price forecasts highlights the urgency of such reforms.

## Strengthening public finances

The crisis, and policy responses to it, has left the public finances of many countries in even poorer long-term health than before. The fiscal positions of the G-20 advanced economies weakened by 6 percent of gross domestic product (GDP), on average, during 2008–09, and those of many developing countries have also deteriorated. Future challenges may be even more severe: for example, the IMF puts the present value of population aging–related public expenditure costs at perhaps 10 times those of the financial crisis. Public spending will therefore need to be cut and tax revenues increased substantially—perhaps by an average of 3 percentage points of GDP in advanced economies (Cottarelli and Viñals, 2009).

Carbon pricing alone cannot solve these deep fiscal problems, but it can make a significant contribution. The proposed U.S. emission trading program, for example, could raise about $870 billion over 2011–19—roughly 15 percent of the forecast cumulative fiscal deficit and about 0.5 percent of cumulative GDP. And by correcting an underlying resource misallocation, such levies have the added benefit of being less distortionary than other taxes, such as the corporate income tax and social security contributions for and by lower-paid workers.

To realize these important revenue opportunities, governments need to resist political pressures to overcompensate producers by awarding them free emission permits—also known as "grandfathering." Huge rents have already been transferred to power generators and industrial producers in the European Union. And similar trends appear likely in the United States. Emerging draft U.S. legislation, if enacted, would lead to a loss of $700 billion of the $870 billion (more than 80 percent) in projected revenues from carbon pricing (CBO, 2009).

Large-scale grandfathering of emission permits creates massive windfall profits for regulated firms. Some estimates suggest free transfer of as little as 6 percent of emission rights could be enough to fully compensate electricity producers for any resulting reductions in the value of polluting assets (others put the figure somewhat higher—on the order of 25–30 percent). At best, grandfathering is a crude means of reducing competitive risks to firms exposed to international competition, because the implicit subsidy is targeted at all production rather than exports alone. Nor does it counteract the effect that underpricing of greenhouse gas emissions abroad has on the price of competing imports. Perhaps most important, free allocation of rights does nothing to shield consumers from increased prices of energy-intensive products: even if they are awarded rights for free, producers have an incentive to raise their output prices to ensure that they earn at least as much as they could by selling those emission permits. Targeted compensation for the welfare losses of the poorest customers would be a more effective answer.

So a transition to full auctioning of emission rights is critical. Where substantial grandfathering is politically unavoidable, at least initially, policymakers should commit to phasing it out over time. If international implementation of carbon pricing remains incomplete, it would be better to address any valid competitiveness concerns—and emerging evidence suggests these can be quite modest—via targeted support rather than through general subsidies. In all cases, the value of grandfathered rights should be quantified and reported as a tax expenditure, so that the issue is open to public debate.

Trade measures such as border tariff adjustments—which remit the burden of emission pricing on exports and impose corresponding charges on imports—are a possible alternative. But they risk being misused to hide tariffs or export subsidies, thereby fueling a slide toward protectionism, and may not be consistent with World Trade Organization rules. Moreover, it is far from clear how such adjustments might be made in relation to emission permits, especially when they are not auctioned.

Reversing fuel subsidies—currently valued at over $300 billion a year, and creating significant macroeconomic and fiscal vulnerabilities, particularly in low- and middle-income countries—is another priority. Fuel subsidies are widely recognized to be an inefficient way to help the poor (because energy is often disproportionately consumed by wealthier people) and to create incentives for emission-intensive energy use. IEA (2009) estimates that the elimination of fuel subsidies could reduce greenhouse gas emissions by about 12 percent by 2050. The recent commitment by G-20 members to eliminate subsidies is an important step, both in itself and as an example for others.

## Tax or cap and trade: lessons from the crisis

The crisis may strengthen the preference many economists have for emission taxes over cap-and-trade systems (the two main instruments for pricing carbon). The fall in the demand for ETS permits in the European Union is a powerful reminder that policy is set with imperfect knowledge of future mitigation costs. This uncertainty creates important differences between the two. If a carbon tax rather than the ETS had been in place in the European Union, for instance, the recent reduction in abatement costs would have brought about not a fall in carbon prices, but a larger reduction in emissions. While the observed price drop may have provided some automatic stabilization, volatility discourages mitigation-related investments, since it means that risk-averse investors will then likely require higher-than-expected returns. Overall, the cost of achieving a given level of mitigation might therefore have been lower if stable tax-based incentives had been implemented.

Where emission trading is chosen instead of a carbon tax, market stability should be protected as far as possible. Systems that allow both carbon price variations (such as cap and trade) and some flexibility in aggregate emissions (such as a tax) can, in principle, be an improvement over either choice alone. This can be achieved by modifying cap-and-trade systems, for example by setting a price floor (through a reserve auction price) or permitting banking of emission rights for future use, and/or by setting a price ceiling (by a willingness to auction unlimited rights at a given price). Such measures are not without their own difficulties, however. It would be best to address the underlying causes of volatility—for example, by expanding the sectoral and geographic coverage of the chosen measures.

## Stimulating a green recovery

Expenditures on environmental programs (green stimulus measures) have helped sustain aggregate demand and employment in the short term. Studies suggest that these could confer stronger growth effects than conventional measures such as general consumption or income support. A review of the recovery plans of 20 countries (HSBC, 2009) identified more than $430 billion—or about 15 percent of the additional aggregate expenditure—allocated to green objectives.

However, stimulus spending also includes "dirty" investments, such as the $270 billion allocated to road-building projects in the G-20. Such investment is likely to confer strong nonenvironmental benefits by making road transportation more attractive, but it could substantially increase future emissions unless kept in check by proper (and even more aggressive) future carbon pricing.

Promoting recovery from the crisis while avoiding wasteful or inefficient expenditures requires careful evaluation of the contribution of recovery programs (environmental or otherwise, including in the form of tax breaks) to demand. Spending measures must not take the place of more efficient emission pricing—especially given many countries' intense fiscal challenges. The risk is an inefficient policy mix: public spending paying for the uncorrected externalities of undercharging polluters.

Spending on renewable energy projects is an appealing stimulus measure, to the extent that these activities tend to be relatively labor intensive (particularly during their development phase). However, public financial support in many advanced economies for such programs was already high—perhaps too high—before the crisis. Support for biofuels in the United States, Canada, and the European Union, for example, amounted to about $11 billion in 2006 and achieved emission reductions at a much higher cost than the EU ETS. While this might be expected in the early stages of new technologies, there is little sign here of public spending having been inefficiently low. Given the typically large up-front costs and long pay-back periods in the development of renewables, credible emission pricing is likely to be more effective for the efficient development of this crucial sector than temporary spending on specific projects.

Nevertheless, climate-related public spending will be needed in a number of areas even after fiscal stimulus fades. Public support for basic energy research and development can help make up for the fact that weak intellectual property rights and strong spillover benefits discourage private spending. Kick-starting new markets to reduce deforestation, which accounts for nearly one-fifth of global emissions, is key. This can be done, for example, by helping develop robust monitoring and verification arrangements and compensating affected individuals and communities. Additional public investment in low-carbon energy infrastructure could help cushion the environmental burden of future energy needs. (About 1.6 billion people do not have access to electricity, and—likely more important for emissions—there is a growing need for capital replacement in many advanced economies.) Investment in adaptation—closely linked to basic development needs such as access to health, education, water, and sanitary services—is also likely to be an ongoing fiscal challenge.

## A climate for recovery

Sustaining recovery from the global financial crisis while coping with climate change presents both difficulties and opportunities. There are potential win-win spending measures, but the more fundamental linkages and synergies lie in the broader strategies adopted toward each. Greater climate resilience can promote macroeconomic stability and alleviate poverty, and carbon pricing, essential for mitigation, can also help strengthen fiscal positions, which many countries need. The temporarily lower energy prices resulting from current macroeconomic weaknesses present some early opportunities. But the currently weak economic outlook in many countries warrants some caution in moving to aggressive emission pricing where the associated increase in production costs and reduction in household incomes could significantly impede recovery. What is critical, however, is to recognize that the policies needed to address climate issues efficiently—including by moving toward broad-based carbon pricing and away from grandfathering emission permits—remain fundamentally unchanged, and no less urgent. Emission pricing, spending, and regulatory measures must be deployed—with careful attention to the balance between them. ■

*Benjamin Jones is an Economist and Michael Keen is Assistant Director in the IMF's Fiscal Affairs Department.*

*References:*

*Congressional Budget Office (CBO), 2009, Cost Estimate for H.R. 2998, the American Clean Energy and Security Act, as amended and reported by the House Committee on Rules on June 26 (Washington).*

*Cottarelli, Carlo, and José Viñals, 2009, "A Strategy for Renormalizing Fiscal and Monetary Policies in Advanced Economies," IMF Staff Position Note 09/22 (Washington: International Monetary Fund).*

*HSBC Global Research, 2009,* A Climate for Recovery: The Colour of the Stimulus Goes Green *(London).*

*International Energy Agency (IEA), 2009,* World Energy Outlook 2009 *(Paris).*

*Jones, Benjamin, and Michael Keen, 2009, "Climate Policy and the Recovery," IMF Staff Position Note 09/28 (Washington: International Monetary Fund).*