

## THE EU EMISSION TRADING SCHEME: A PROTOTYPE GLOBAL SYSTEM?

BY A. DENNY ELLERMAN



## OVERVIEW

As the world's first multi-national cap-and-trade system for regulating greenhouse gas (GHG) emissions, the European Union's Emission Trading Scheme (EU ETS) can be seen as a prototype for an eventual global climate regime. This paper draws on the first four years of experience with the EU ETS to develop insights about the challenges that can be expected to emerge in a broader program and to suggest potential solutions.

## DISCUSSION

The ETS was launched in 2005 to help EU member states meet their Kyoto Protocol commitments. It covers CO<sub>2</sub> emissions from power plants and other large industrial facilities, which together account for approximately 40 percent of the EU's total GHG inventory. Following an initial three-year trial phase, the program entered the first of the succeeding 'real' trading periods in 2008.

Despite numerous difficulties, the EU has largely succeeded in establishing a functioning cap-and-trade system that is generating concrete price signals for reducing CO<sub>2</sub> emissions. Strikingly, the number of nations participating in the ETS has doubled from 15 when the program was conceived to 30 today. The current program includes countries that vary widely in their level of economic development, institutional capacity, regulatory history, and domestic commitment to climate-change mitigation. This diversity and the sovereign status of EU member states makes the EU ETS better suited to serve as a model for a global system than might first appear.

## KEY FINDINGS &amp; RECOMMENDATIONS

► *An initial trial period was invaluable in providing the opportunity to correct widespread data deficiencies and develop needed institutional capacities.* As a result, it was possible to launch the first 'real' trading period of the ETS with national emission budgets based on verified facility-level emissions data, functioning monitoring protocols and registries, and full-fledged participation by all members. Because allowances issued during the trial period could not be banked or borrowed, early problems (such as the over-allocation of allowances) were prevented from spilling over into later trading periods.

► *The centralized functions provided by the European Commission will be equally essential to the success of a global system, but it is not yet clear what organization could step in to fill that role.* Although individual states are responsible for emissions monitoring, reporting, verification, and enforcement under the ETS, the European Commission plays a critical role in approving national budgets, establishing common registry protocols, and providing information and technical assistance. What entity could fill these needs for a global system remains a crucial and as yet unanswered question.

► *The broader benefits of EU membership help account for the willingness of less committed nations to join the ETS. Such 'club' benefits may be important for securing broad-based participation in a global system.* While a number of newer EU members are unhappy with the ETS and several have mounted formal challenges to proposed emissions budgets, appeals are being pursued through common European institutions, and no nation has yet withdrawn from the program. Apparently, the benefits of EU membership continue to outweigh the disadvantages of participation. Similarly effective inducements for opting in (and staying in) will need to exist in a global system.

► *Reconciling increased stringency, differentiation and harmonization pose a major challenge for any multinational GHG trading system.* The evolution of the EU ETS suggests that increasing stringency requires greater differentiation of responsibilities among countries of differing circumstances at the same time that participants are calling for greater harmonization in allowance allocations, a goal that is at odds with differentiation. These conflicting goals would be reconciled in proposals being debated in the EU through full auctioning, with differentiated allocation of auction rights to member states, but political feasibility has yet to be demonstrated. Nevertheless, the share of auctioned allowances appears certain to increase.

► *The public may be more willing to accept international trade in emissions allowances than previously imagined.* There has long been a concern that large outflows of capital to purchase allowances from other countries could prove politically problematic. So far this has not been an issue in the EU ETS, perhaps because international transfers of allowances are (a) relatively small and (b) dwarfed by trade in other goods and services.

## CONCLUSION

Interestingly, the problems that are often seen as most intractable for a global trading system—institutional readiness and public acceptance—haven't yet appeared in Europe. Rather, the greater challenges may lie in developing an effective centralized authority, devising side benefits to encourage participation, and dealing with the interrelated issues of harmonization, differentiation, and stringency. The EU ETS is not perfect, nor does it provide a perfect prototype for a global system, which would surely diverge in important respects from the European model. Nevertheless, the EU example is likely to continue to be highly instructive as policymakers consider the larger and more difficult task that lies ahead.

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## ABOUT THE HARVARD PROJECT ON INTERNATIONAL CLIMATE AGREEMENTS

The goal of the Harvard Project on International Climate Agreements is to help identify key design elements of a scientifically sound, economically rational, and politically pragmatic post-2012 international policy architecture for global climate change. It draws upon leading thinkers from academia, private industry, government, and non-governmental organizations from around the world to construct a small set of promising policy frameworks and then disseminate and discuss the design elements and frameworks with decision-makers. The Project is co-directed by Robert N. Stavins, Albert Pratt Professor of Business and Government, John F. Kennedy School of Government, Harvard University, and Joseph E. Aldy, Fellow, Resources for the Future.

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