

## A PORTFOLIO OF CLIMATE TREATIES

BY SCOTT BARRETT



## OVERVIEW

Since the Kyoto Protocol has so far failed to achieve the core objective of reducing global greenhouse gas emissions, this paper proposes a radically different approach. Rather than attempting to address all sectors and all types of greenhouse gases under one unified regime, the author argues for a system of linked international agreements that separately address different sectors and gases, as well as key issues like adaptation and technology R&D, and last-resort remedies like geoengineering.

## DISCUSSION

The failure of the Kyoto Protocol (emissions are still rising) can be traced to a lack of enforcement. Since sovereign nations cannot be compelled to act against their wishes, successful treaties must create adequate internal incentives for compliance, along with external incentives for participation. The Kyoto Protocol lacks both.

One much-discussed remedy is trade restrictions (especially, a border tax), which would financially penalize countries that refuse to join a climate agreement. But this approach is problematic. First, trade restrictions are a blunt instrument: they would need to be both credible and severe—two characteristics that are often in tension. Second, their legitimacy would be open to challenge, and their use could spur retaliatory measures. Finally, trade restrictions would also have to be used to enforce compliance, but it is not clear that parties to a future treaty would agree to this—particularly when many countries are falling short of meeting their existing commitments.

If national-level obligations cannot be enforced by trade restrictions or any other means, perhaps a different approach should be tried—one that focuses on individual sectors. The Kyoto Protocol itself treats some sectors separately, notably marine transport and aviation. A sectoral approach also has the advantage that, if policies designed for a given sector prove ineffective, their failure need not drag down the entire enterprise. Similar arguments can be made for separate approaches to different types of greenhouse gases.

## KEY FINDINGS &amp; RECOMMENDATIONS

The paper goes on to discuss specific aspects of a portfolio approach to reducing global climate-change risks:

- ▶ *Sector-level agreements* should provide global standards for specific sectors or categories of greenhouse gas sources (for example, the aluminum industry). Developing countries should not be exempted from these standards but should be offered financial aid to help them comply. Finally, trade restrictions should be used to enforce agreements governing trade-sensitive sectors (i.e., aluminum), where such sanctions can be both effective and credible.
- ▶ *R&D obligations* should be linked to emission reduction policies. For example, an agreement could require that all new coal-fired power stations be fitted with carbon capture and storage, with this obligation being binding only so long as the treaty met minimum participation requirements. Such an agreement would reduce incentives for free-riding and spur R&D in an area where countries might otherwise be likely to under-invest. This approach would also address a key shortcoming of the Kyoto Protocol—its failure to directly stimulate R&D investments.

► *Adaptation assistance to developing countries* should be provided, consistent with the obligation already articulated in Article 3 of the United Nations Framework Convention on Climate Change. All nations have strong incentives to adapt, but only rich countries have the resources and capabilities to insure against the consequences of climate change. In fact, rich countries may be tempted to substitute investments in adaptation (the benefits of which can be appropriated locally) to investments in mitigation (the benefits of which are distributed globally). If so, this would leave developing countries even more exposed to climate risks and tend to widen existing disparities. It is not yet clear what form a new approach to adaptation assistance would take, but it is possible to identify several critical areas for investment, including agriculture and tropical medicine.

► *Geoengineering and air capture* have a role to play in the portfolio of options. Geoengineering strategies attempt to limit warming by reducing the amount of solar radiation that reaches the Earth's surface (the most commonly discussed approach involves throwing particles into the atmosphere to scatter sunlight). Because this form of geoengineering could be implemented relatively cheaply, the greater challenge may be to prevent nations from resorting to it too quickly or over other countries' objections. Air capture refers to strategies for removing carbon from the atmosphere—possible options include fertilizing iron-limited regions of the oceans to stimulate phytoplankton blooms or using a chemical sorbent to directly remove carbon from the air. The latter approach would be very costly and is unlikely to be implemented unilaterally. The proposal encourages more R&D for these efforts and global negotiation over when they should be used.

## CONCLUSION

The proposed multi-track climate treaty system is not perfect but could offer important advantages over the current approach. By avoiding the enforcement problems of an aggregate approach and by taking a broader view of risk reduction, the portfolio approach provides a more effective and flexible response to the long-term global challenge posed by climate change.

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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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