The Harvard Environmental Economics Program
and
The Harvard Project on Climate Agreements

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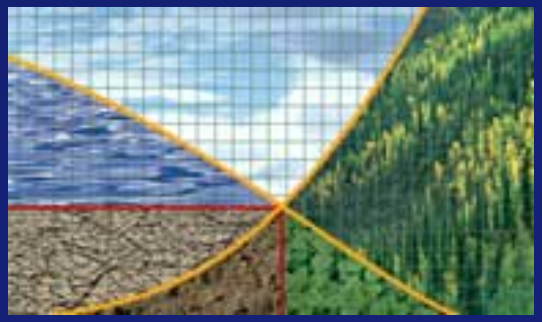
Meeting with the National Development & Reform Commission
People's Republic of China
Cambridge, Massachusetts, USA
January 10, 2012

Mission
of the Harvard Environmental Economics Program

- To develop innovative answers to today's complex environmental issues…



- …by providing a venue to bring together faculty and graduate students from across the University

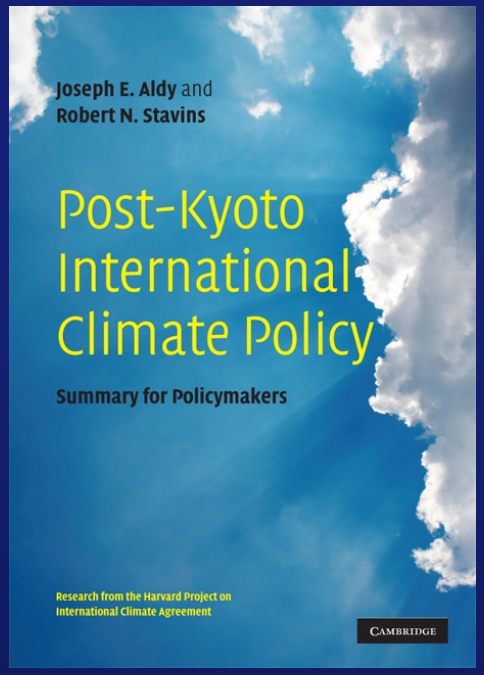
- …engaged in research, teaching, and outreach in environmental & natural resource and energy economics and related public policy.

- The Program sponsors research projects, convenes workshops, and supports graduate education to further understanding of critical issues in environmental, natural resource, and energy economics and policy around the world.

Harvard Project on Climate Agreements

Mission: To help identify key design elements of a scientifically sound, economically rational, and politically pragmatic post-2012 international policy architecture for global climate change.

- 48 Discussion Papers from research teams around the world — a virtual reference library of research on options for international climate policy that has significantly benefited policy makers
- Research teams in Australia, China, Europe, India, Japan, and the United States
- Three major published volumes
  (Cambridge University Press)
- Presentations at UNFCCC COPs
- Policy roundtables and research workshops held around the world (Beijing, Brussels, Tokyo, etc.)



Potential International Climate Policy Architectures

- **Centralized architectures**
  - Kyoto Protocol
  - *Formulas for Assigning Targets*
  - Portfolio of International Agreements

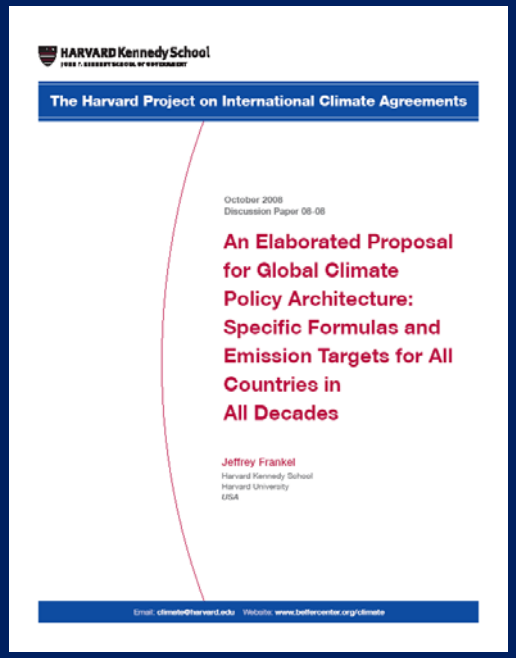
- **Harmonized national policies**
  - *Harmonized National Carbon Taxes*, Trading Regimes, or Standards

- **Decentralized architectures and coordinated national policies**
  - *Linkage of Regional, National, & Sub-National Cap-and-Trade Systems*
  - Linkage of Heterogeneous National Policies
  - *Portfolio of Commitments*

Formulas for Emission Targets for All Countries

- *Core: Key principles lead to design of targets*
  - *Formula used to set national emission caps to 2100 using three key elements*
  - *Progressivity factor: richer countries make more severe cuts*
  - *Latecomer factor: nations that did not achieve targets under Kyoto make gradual emission cuts to account for post-1990 emissions*
  - *Equalization factor: moves targets of all countries in direction of global average per capita emissions by end of century*

- **Formulas assign quantitative emission caps to countries to 2100**
  - Developing countries are not asked to bear any cost in early years
  - Developing countries are not asked to make any sacrifice different from sacrifices of developed countries, accounting for differences in income
  - No countries have targets costing more than 1% of GDP
- **International trading links national & regional systems**
- **Every country contributes no more than its "fair share"**


HARVARD Kennedy School

The Harvard Project on International Climate Agreements

October 2008
Discussion Paper 08-08

An Elaborated Proposal for Global Climate Policy Architecture: Specific Formulas and Emission Targets for All Countries in All Decades

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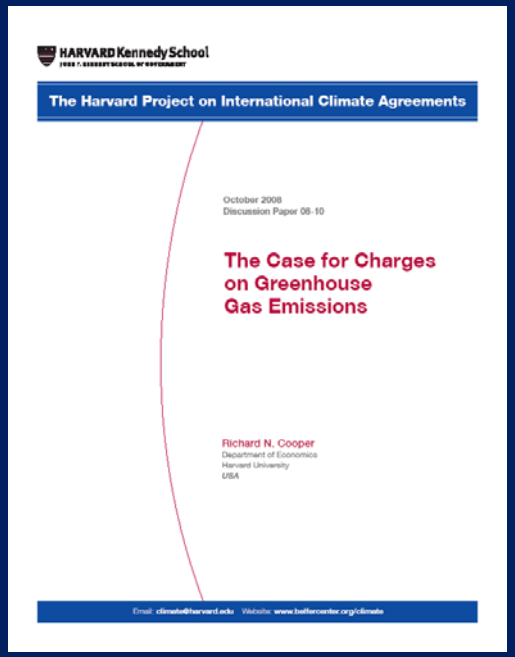
System of National Carbon Taxes

- *A system of harmonized national carbon taxes*
  - *Each country collects and keeps generated revenue*
  - *Uniform tax set by international agreement, subject to periodic review*
  - *Charge assessed upstream on carbon content of fossil fuels*
  - *Poorest nations exempted: low emitters, and administrative capacity may be a problem*

- **Advantages**
  - Can be comprehensive and cost-effective
  - Simple to design and administer, institutions exist
- **Concerns**
  - Equity: does not include obvious device for side-payments
  - Apparent lack of political will in most countries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The Harvard Project on International Climate Agreements

October 2008
Discussion Paper 08-10

The Case for Charges on Greenhouse Gas Emissions

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Portfolio of Domestic Commitments (“Pledge and Review”)

- *Each participating nation registers to abide by its domestic climate commitments*
  - Australia, EU, China, India, Japan, New Zealand, and U.S. announced domestic commitments or plans prior to Copenhagen (December 2009)
- Copenhagen Accord
- Cancun Agreements

HARVARD PROJECT ON INTERNATIONAL CLIMATE AGREEMENTS

VIEWPOINTS

A PORTFOLIO OF DOMESTIC COMMITMENTS:
IMPLEMENTING COMMON BUT DIFFERENTIATED RESPONSIBILITIES

BY ROBERT N. STAVINS*

International negotiations are focused on developing a climate policy framework for the post-2012 period, when the Kyoto Protocol's first commitment period will have ended. In addition to negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), other intergovernmental outlets, including the G20 and the Major Economies Forum, are trying to reach common ground among the world's major emitters of greenhouse gases. To date, these efforts have not produced a politically, economically, and environmentally viable structure for a future climate agreement.

An effective, but more flexible and politically palatable approach could be an international agreement on a "portfolio of domestic commitments." Under such an arrangement, nations would agree to honor commitments to greenhouse gas emission reductions laid out in their own domestic laws and regulations. A portfolio of commitments might emerge from a global meeting such as the UNFCCC Conference of the Parties, or a smaller number of major economies could negotiate an agreement among themselves, and then invite other countries to join.

Despite the differences between such a system and the conventional "targets and timetables" in the Kyoto Protocol, negotiators should not dismiss this new approach out of hand. There are several ways to construct a portfolio of domestic commitments, and negotiators have numerous levers available to tailor an agreement to meet their political, economic, and environmental goals. This *Viewpoint* outlines some basic features of a portfolio approach, highlights a few major issues and concerns, and discusses its potential feasibility.

THE PORTFOLIO OF DOMESTIC COMMITMENTS APPROACH

The core of a portfolio of domestic commitments is agreement among a set of countries to conform to the climate change mitigation requirements specified by their respective domestic laws, regulations, and official planning documents (the last being domestically binding in centrally planned economies). The portfolio approach gives member countries free rein to dictate the precise form their domestic commitments will take, whether those be greenhouse gas cap-and-trade systems, carbon taxes, intensity targets, performance or technology standards, or other instruments. A portfolio agreement should be highly credible, given that it is grounded in domestic commitments, en-

*The author is the Albert Pratt Professor of Business and Government, Harvard Kennedy School. Thanks are due to Matthew Littleton for his valuable assistance with the preparation of this *Viewpoint*. Comments from Michael Levi are gratefully acknowledged. The author is solely responsible for the content.

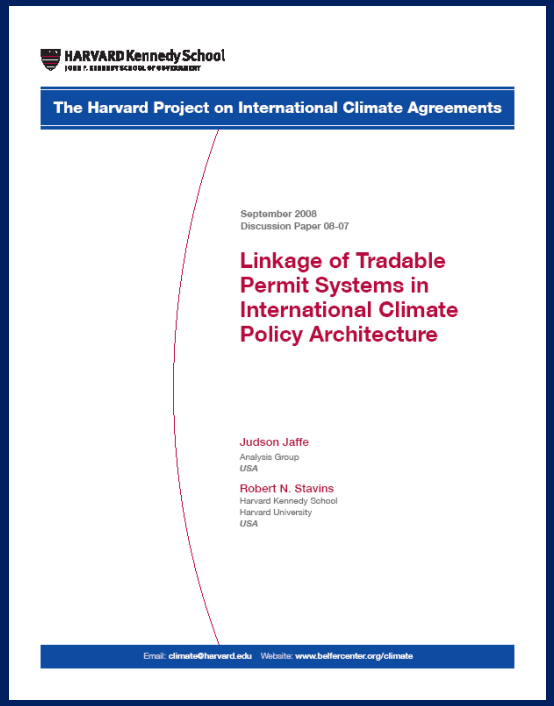
Viewpoints present policy proposals, considered opinions, and commentary by distinguished policy makers, leaders from business and non-governmental organizations, and scholars. The Harvard Project on International Climate Agreements does not advocate any specific climate change policy proposals. Statements and views expressed in *Viewpoints* are solely those of the authors and do not imply endorsement by Harvard University, the Harvard Kennedy School, or the Harvard Project on International Climate Agreements.

- But can this bring about “sufficient” stringency?
  - No, but is that the right question?
- Can it be an effective bridge to further steps?
  - Perhaps

Linkage of National & Regional Tradable Permit Systems

- *Cap-and-trade systems are preferred approach in many countries and regions*
  - *Linking these cap-and-trade systems reduces overall costs, market power, and price volatility*
  - *But linking causes automatic propagation of cost-containment design elements: banking, borrowing, and safety valve*
  - *Therefore, advance harmonization required*

- **The Emerging International Regime**
  - If cap-and-trade systems link with common emission-reduction-credit system, such as CDM, the cap-and-trade systems are indirectly linked
  - All the benefits of linking are achieved – cost savings, etc.
  - But propagation of design elements across systems greatly diminished
  - May be evolving as part of *de facto* post-Kyoto architecture


HARVARD Kennedy School

The Harvard Project on International Climate Agreements

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Linkage of Tradable Permit Systems in International Climate Policy Architecture

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The Harvard Project on Climate Agreements …

- Does *not* endorse particular policies or policy architectures
- Does *not* make policy recommendations
- Rather, the Harvard Project on Climate Agreements *carries out research*,
  - And provides a *living reference library*
  - The Project is *interactive*, working with national delegations and stakeholder groups *around the world*.

For More Information

Harvard Project on Climate Agreements
www.belfercenter.org/climate

Harvard Environmental Economics Program
www.hks.harvard.edu/m-rcbg/heep/

www.stavins.com

Appendix: The U.S. National Context

- **Most economists & other policy analysts favor *carbon-pricing*. Why?**
  - No other feasible approach can provide truly meaningful emissions reductions (such as U.S. target of 80% cut in national CO_2 emissions by 2050)
  - It's the least costly approach in short term (heterogeneous abatement costs)
  - It's the least costly approach in the long term (incentive for carbon-friendly technological change)
  - So, it's a necessary (but not sufficient) component of sensible climate policy
- **But, carbon-pricing is controversial in the U.S.**
  - It makes the costs transparent (unlike conventional policy instruments); and cap-and-trade is easily associated with the T-word; indeed, in Washington, cap-and-trade was *demonized* as "cap-and-tax"
  - A meaningful, national, economy-wide carbon-pricing policy is unlikely to be enacted in U.S. before 2013 (at the very earliest)
- **Does that mean there will be no U.S. climate policy? *No*.**

Other Important U.S. Climate Policy Developments

- **Stimulus Package** – $80 billion committed for renewables and energy-efficiency
- Automobile and Appliance **Energy Efficiency Standards**

- **U.S. Supreme Court decision, EPA endangerment finding, & CAA**
- **Air pollution policies for correlated pollutants under CAA**
- **Public Nuisance Litigation:** lawsuits pursuing injunctive relief and/or damages
- Political interest in **Clean Energy Standard**
- **Carbon Tax** – will fiscal realities lead to look at Federal "consumption taxes?"
- **Technology Policies**
  - Carbon-pricing necessary, but not sufficient – information is a public good
  - Technology innovation subsidies necessary, but not sufficient