

Co-benefits in Asia

Incentives and Measurement

IGES-TERI Policy Dialogue

Sustainable Low-Carbon Development in Asia:
Prospects for a Successful Future Climate Regime

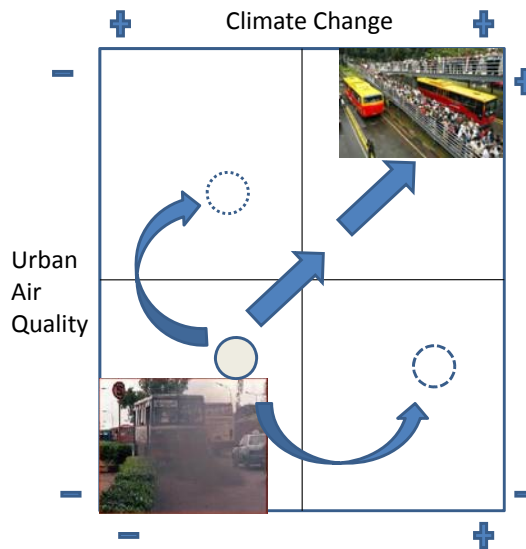
Eric Zusman
Institute for Global Environmental Strategies
Hayama, Japan
zusman@iges.or.jp

Presentation Roadmap

1. Co-benefits research
2. Co-benefits incentives
3. Co-benefits measurement
4. Co-benefits and black carbon

1. Co-benefits Research: Issues and Challenges

- Development benefits of climate actions
 - i.e. improved air quality and impacts on human health
- Climate benefits of development policies
 - i.e. greenhouse gases (GHGs) mitigated
- The key to realizing co-benefits is an integrated approach



1. Co-benefits Research: Issues and Challenge*

There growing interest in co-benefits in Asia

CANADA
IISD-Created development divided to measure SD benefits of CDM
UBC-Looking at Co-impacts and trade-offs with focus on short term warming agents

EUROPE
NEAA-Recent released study comparing air, climate and integrated policy
CICERO-Several studies on co-benefits in China with growing interest in India
SEI-GAPF-Global initiative on climate and air linkages in different regions
OECD-Worked with RFF on initial co-benefits workshop for IPCC TAR; engaged in recent work with RIVM; looking at linkages to future climate regime
IIASA-Using existing RAIN model converted to GAINS model to estimate co-benefits in Asia

KOREA
KEI-estimating co-benefits of transport and energy policies in Korea

JAPAN
IGES-co-benefits in transport and waste sectors as well transregional air pollution
OECC-Disseminating co-benefit project tool for CDM projects in China and Southeast Asia

INDIA
Urban Emissions Info-Offering modeling of air pollution and climate co-benefits
TERI-estimating climate co-benefits; inserted into climate national action plan
RITES-supporting co-benefits modeling in Hyderabad

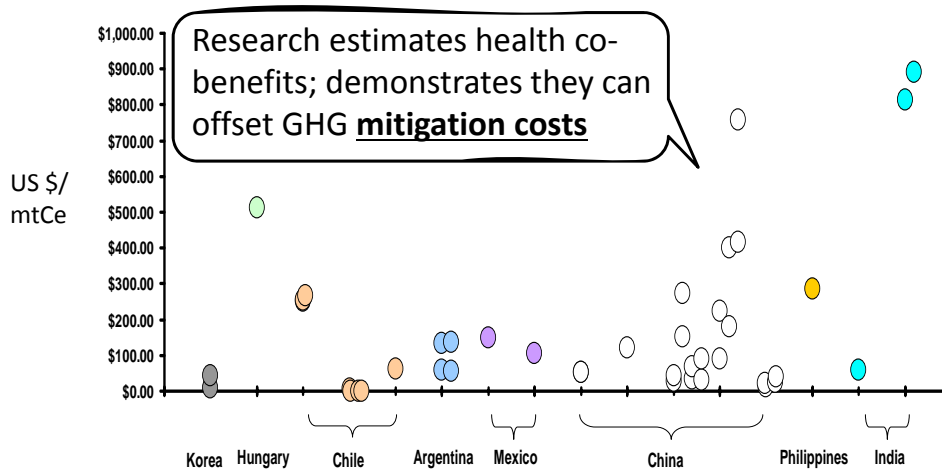
CHINA
ERI-Estimating co-benefits using GAINS model
Tsinghua University/PRCEE-Several studies on co-benefits in Beijing and national study
Shanghai Academy of Environmental Sciences-Estimate of co-benefits in Shanghai

SOUTH AMERICA/ LATIN AMERICA
Catholic University-Analyzed the health impacts of implementing air quality improvements
National Institute of Ecology-Engaged in four phase study in Latin America estimating co-benefits
Instituto Nacional del Agua y el Ambiente and the University of Buenos Aires-Modelling health impacts of integrated strategies
University of Sao Palo-Modelling health effects from integrated environmental strategies

UNITED STATES
USEPA-IES-Estimates co-benefits for several countries in energy transport sectors; generate analytical inputs into policy process
RFF-Contributed to early work on co-benefits; recent large study on co-benefits in China
Woods Hole Research Center/ UC Berkeley/ Harvard-Ongoing co-benefit work in Asia; on metrics and projects
Princeton University-Co-benefits and co-impacts in China (short term warming agents)
HEI-Part of GAPF estimating health impacts of integrated measures

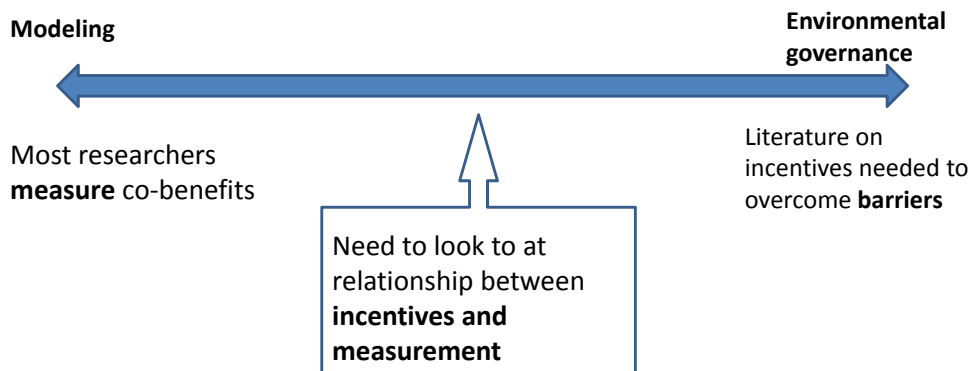
*This is not an exhaustive list; it is meant to convey the growing interest in estimating co-benefits

1. Co-benefits Research: Issues and Challenges



1. Co-benefits Research: Stakeholder Perspectives

- But multiple objectives easier to optimize in a model than realize in a policy
- **Significant cost, capacity, and coordination** barriers—particularly in Asia



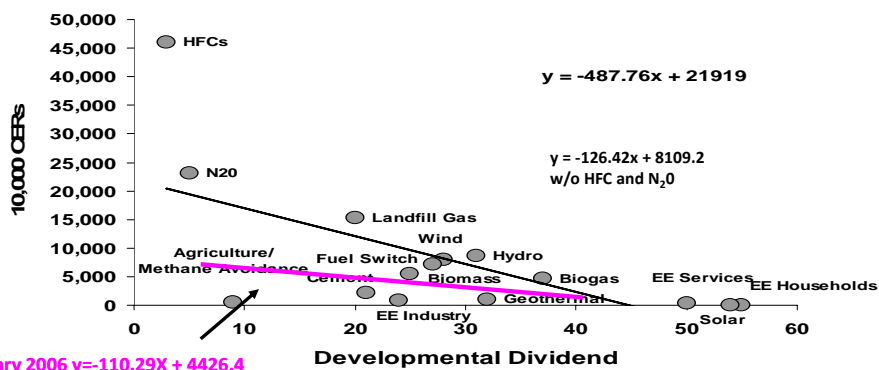
2. Co-benefits Incentives: Issues and Challenges

- The current regime's incentives have been insufficient
 1. CDM-values carbon; rhetorical support for sustainable development
 2. Host country DNA-determines sustainable development criteria
 3. Limited support from other climate funds in the regime (SCCF and LDC fund)

2. Co-benefits Incentives: Issues and Challenges

- Results have been predictably disappointing

**CERs on the Developmental Dividend
(October 2008)**



The scatterplot supports the conclusion in much of the literature that the CDM has not contributed to sustainable development. Holm Olsen argues that sustainable development is "rhetorically mandated, but not monetized and therefore plays a limited role in directing investments."

2. Co-benefits Incentives:

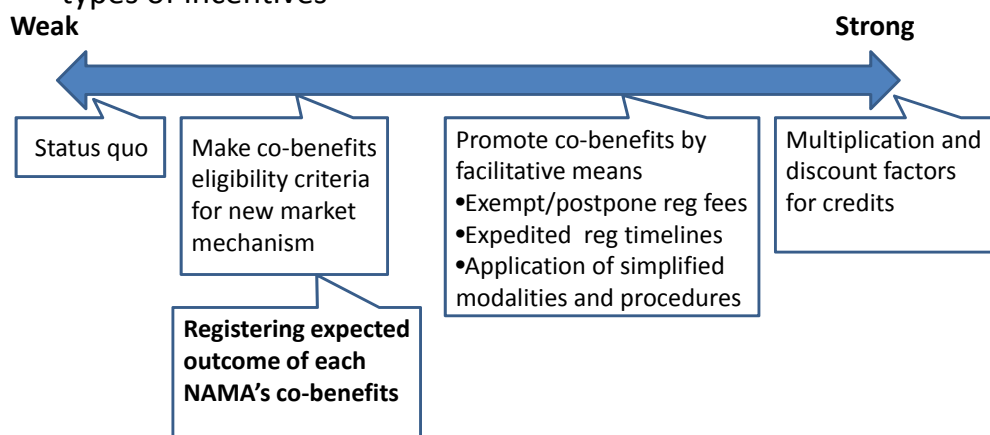
Issues and Challenges

- Climate negotiators can strengthen these incentives
- Two provisions in the Bali Action Plan
 - **1.b.ii. NAMAs** in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in MRV manner;
 - **1.b.v.** Opportunities for using **markets**, to enhance the cost-effectiveness of, and to promote, mitigation actions...
- Recent UNFCCC non-papers focus on a new **market mechanism**

2. Co-benefits Incentives:

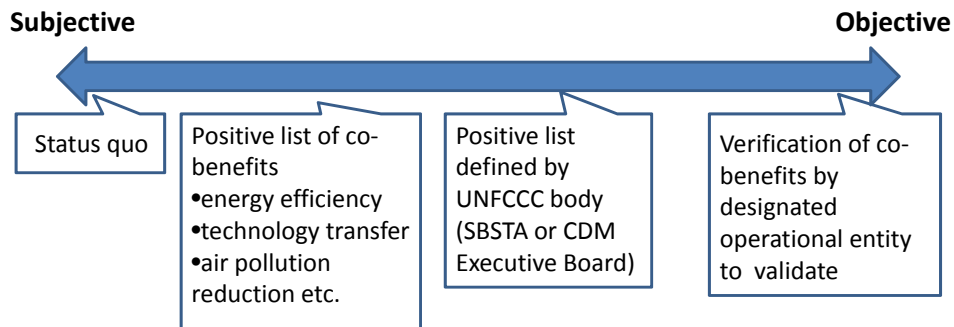
Stakeholder Perspectives

- Strengthening incentives requires reconciling perspectives on types of incentives



3. Co-benefits Measurement: Stakeholder Perspectives

- Also requires agreement on co-benefit measurements

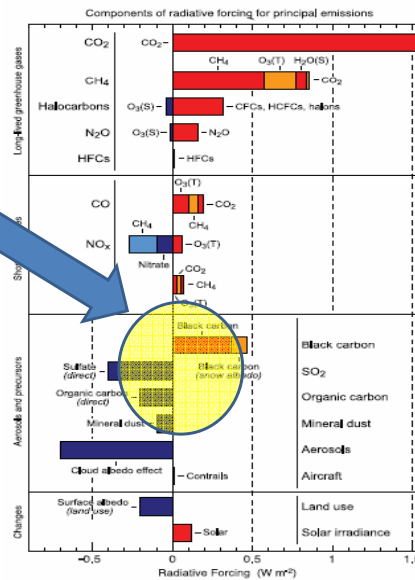


3. Co-benefits Measurement: Stakeholder Perspectives

- Stronger incentives could increase transaction costs
- Incentives **reducing those costs** have potential in a new market mechanism
- Prioritizing NAMAs with co-benefits for finance and non-financial support could have more significant impacts but raise transaction costs
- Modeling research can help improve measurement and verification, reducing transaction costs

4. Co-benefits and Black Carbon: Issues and Challenges

- Black carbon (soot) is a short-term warming agent
- Originates from incomplete combustion
- Particulate matter (PM) includes black carbon
- **Mitigating black carbon can deliver co-benefits**

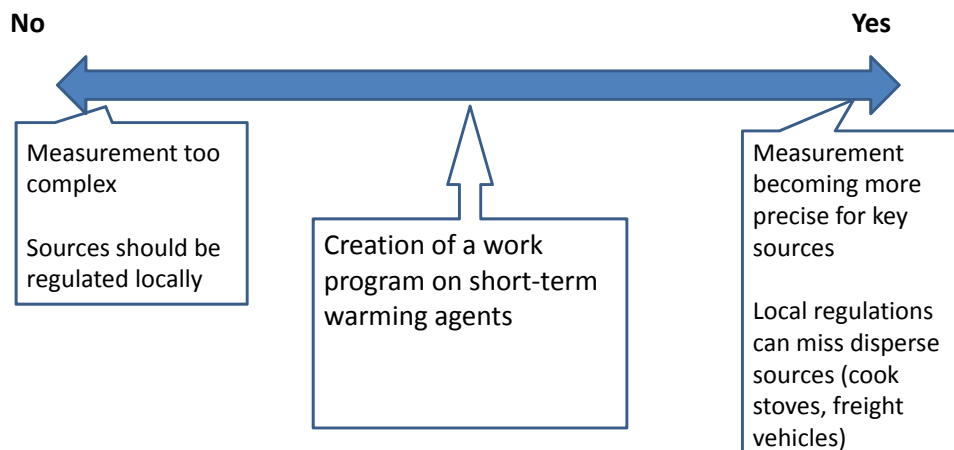


4. Co-benefits and Black Carbon: Issues and Challenges

- Several cost effective mitigation options
 - Improved cookstoves (Smith, 2008)
 - Clean diesel (Minjares and Rutherford 2009; Reynolds, Greishop and Kandlikar, 2009)
- But cost, coordination and capacity barriers at the national level
 - Large number of sources
 - Costs high relative to existing technologies
- Also measurement and incentive barriers at the international level
 - Black carbon global warming potential (GWP) varies from **190-2,240** (Jacobson, 2005)
 - Black carbon should be regulated nationally

4. Co-benefits and Black Carbon: Stakeholder Perspectives

- Should the future regime provide support to mitigate black carbon?



The Way Forward

1. Research

- Strengthen synergies between studies on co-benefits and environmental governance
- Consider how incentives and measurement could help overcome cost, coordination, and capacity barriers
- Greater south-south cooperation and within country cooperation to develop better data and more robust estimates

2. Incentives and Measurement

- Procedural incentives in a reformed market mechanism
- Prioritization for technical, financial and capacity building support for NAMAs with co-benefits
- Capacity building to implementing agencies at national and state/province to generate more robust co-benefit estimates

The Way Forward

3. Black Carbon

- Should initiate work program on short-term warming agents, recognizing importance of co-benefits
- Possible technical, financial and capacity building support under a UNFCCC mitigation fund
- Greater coordination between official development assistance (ODA) for interventions with high development/climate ratio

4. Overall

- Consider creating UNFCCC technical panel to link research on co-benefits and black carbon to incentives under the future regime's mitigation fund

Appendix: Black carbon

Source Distribution

