Trends and Opportunities for Using Economic Instruments, Incentives, and Market-Based Approaches for Air Pollution Reduction in Asia

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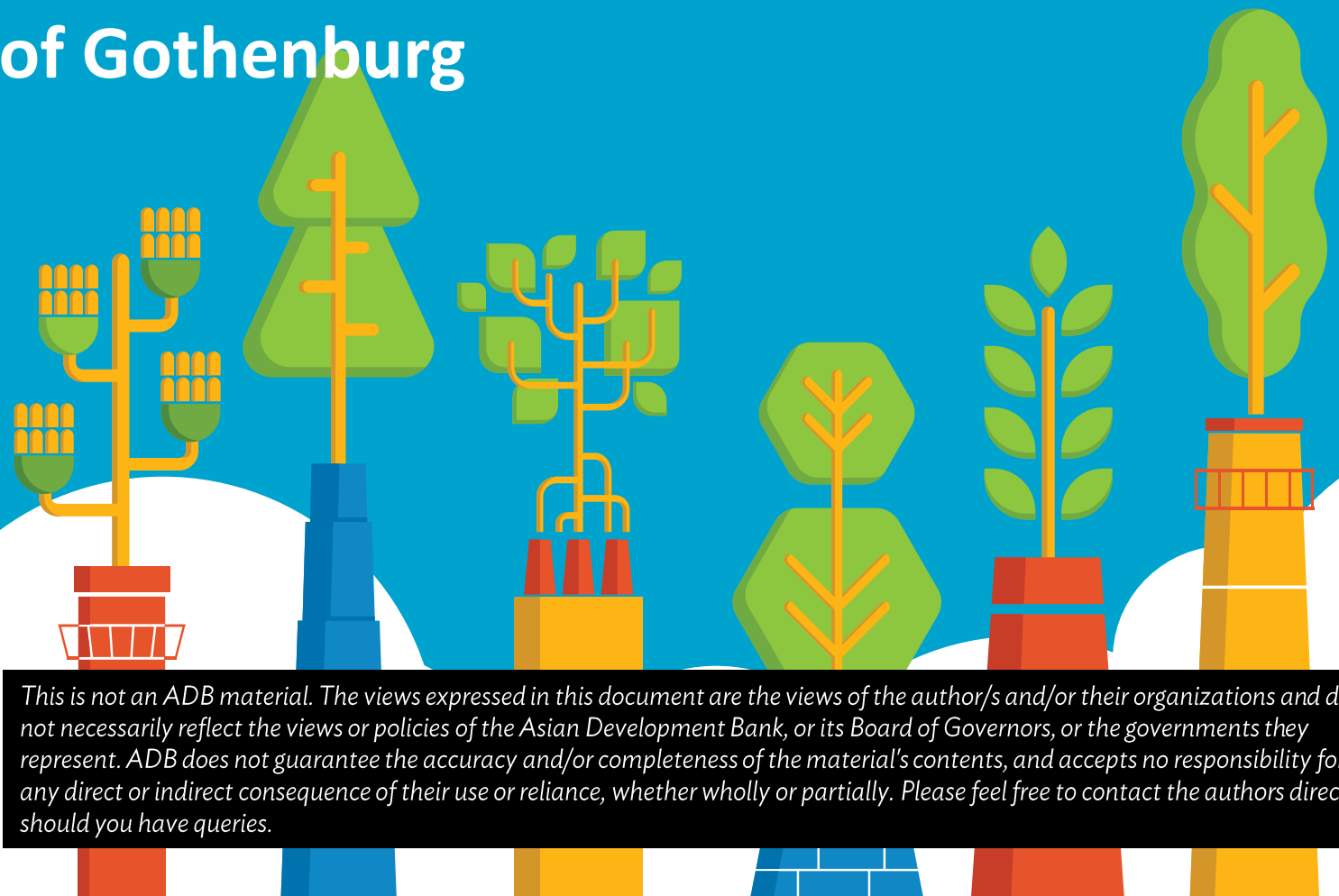


Sustainable Financing for Nature Positive Investments: Tools for Integrating Economic and Market-Based Instruments into Projects

Background: The MBAEM report

- Market-based approaches increasingly important for environmental management globally.
- Huge sustainability challenge demands efficient policies.
- Review of the experiences and potential for management of **air, water and waste**
  - Systematic reviews of literature
  - Country policy reviews
  - Case studies
  - Validation workshops
- Today, presentation of the findings of applications of MBI on **air**.
- Acknowledge important contributions by Jintao Xu and Eswaran Somanathan.

Case studies

India: Feed-in Tariffs and Reverse Auctions for Solar Power

People's Republic of China: Seven Pilot Carbon Emissions Trading Schemes

Singapore: Congestion Pricing

The Asian Air Pollution Challenge

- Each year, around 4 million people in Asia die prematurely from illnesses caused by breathing polluted air.

- The causes and sources of air pollution vary by location and season.

- Major sources of air pollution: **energy production**, **industry, transport**, indoor air pollution from **cooking and heating**, **biomass burning** from deforestation and slash-and-burn land clearing.

Overview of Current Use of MBI for Air Pollution in Asia

Market-Based Instrument	Energy Production and Industrial Pollution	Transport	Household Cooking and Heating
Taxes, Fees, or Charges	Philippines, PRC	Bangladesh, India, Lao PDR, Malaysia, Nepal, Philippines, PRC, Thailand, Viet Nam	
Subsidies	Bangladesh, India, Indonesia, Malaysia, Philippines, PRC, Thailand, Viet Nam	Malaysia, PRC, Thailand	Bangladesh, Cambodia, Indonesia, Lao PDR, Mongolia, Nepal, Viet Nam
Tradable Permits	India, PRC, Republic of Korea		
Information Provision, Labels, and Voluntary Agreements	India, Indonesia, Malaysia, Philippines, PRC, Thailand		

Conclusions and Lessons Learned

- Europe and the US have encountered similar flaws and challenges related to design and implementation of MBI instruments.
  - Tax rates that are ***too low.***
  - Poorly designed and generous subsidies for clean energy technologies proven to be ***financially unsustainable***.
  - ***Over-allocation*** and inadequate markets for trading emission permits.
  - Inadequate ***monitoring and enforcement***.

Conclusions and Lessons Learned

- MBIs have ***great potential*** – in particular, reducing subsidies and taxing fossil fuels.
  - Sterner (2007): Fuel taxes are the single ***most powerful climate policy instrument implemented to date***. Had Europe not followed a policy of high fuel taxation, fuel demand would have been twice as large.
  - Reducing or ***removing fuel subsidies is*** not only environmentally sound but also ***politically sensitive***.
  - IMF (2010): substantial benefit **leakage to higher income groups**. In absolute terms, the top income quintile captures six times more in subsidies than the bottom.

Conclusions and Lessons Learned

- Getting the price right is difficult but important.
  - Taxes should be implemented with a ***long-term perspective*** and with a gradual increase of the tax rates over time.
  - An alternative is a differentiated tax, with ***lower taxes for low-polluting units***.
  - ***Compensation and information*** can help increase application and tax rates.

Conclusions and Lessons Learned

- ***Cap-and-trade schemes*** show potential but ***require strict caps and strong institutional capacity.***
  - Tradable permits ***leave the price of pollution control to the market***.
  - ***The price is affected by the lack of enforcement.***
  - Past experience in Asia suggests that the price signal in many cap-and-trade schemes has been low and volatile. This is largely due to ***caps that are not stringent enough, which induces a low permit price.***

2 Key Suggestions for Upscaling Market-Based Instruments for Air Pollution Reduction

- ***Strengthen enforcement*** of existing environmental policies.

- Implement ***fuel taxes*** and ***phase out fossil fuel subsidies*** while shifting to subsidies for environment-friendly alternatives.

The Importance of Enforcement

- Environmental decentralization of enforcement is challenging because ***local governments may compromise environmental protection in favor of local economic interests***.

- Severe ***l*ack of resources and the limited monitoring and inspection capacity** hamper the effectiveness of environmental enforcement

- Reforms that correct these perverse incentives and enhance local environmental enforcement can have a ***great impact on environmental quality***.

National Specially Monitored Firms program in China

- It enhanced the central government's role in information collection and supervision by means of ***automatic real-time monitoring and frequent inspections*** while maintaining environmental enforcement at the local level.

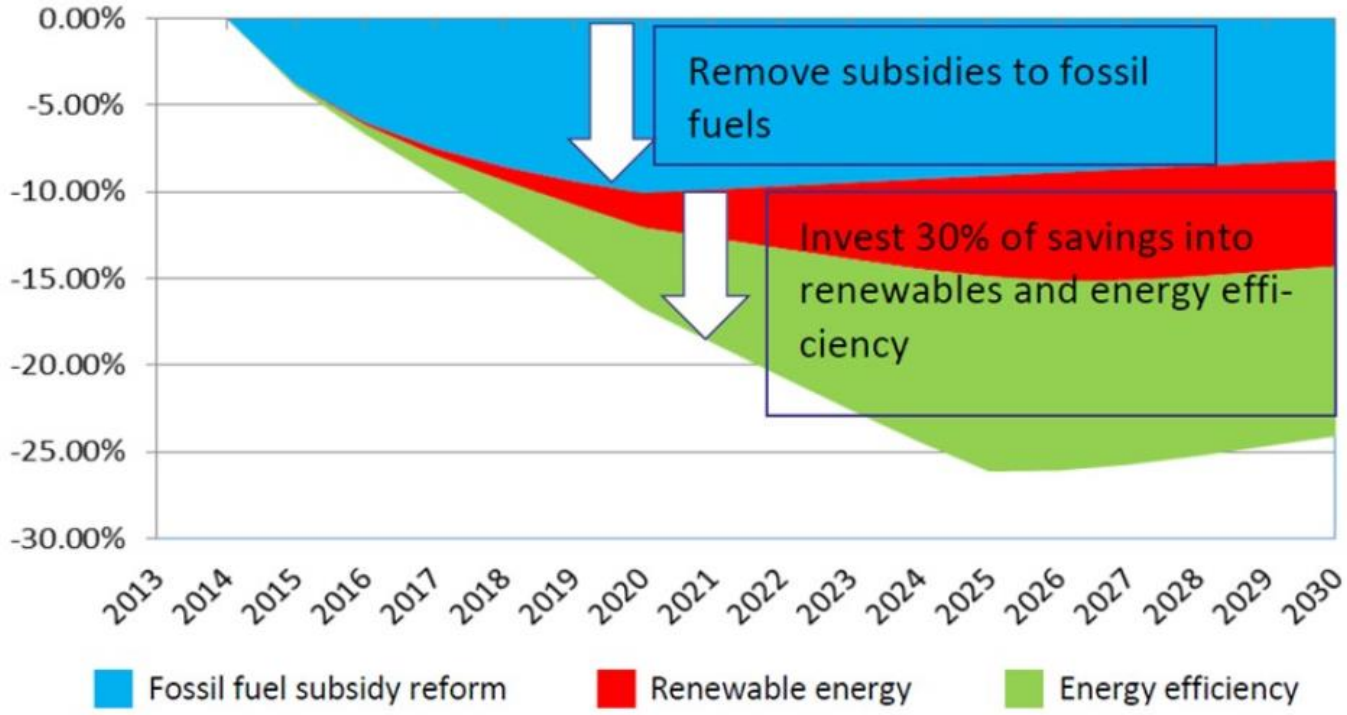
- Zhang et al. (2018): Only a year after its implementation, the NSMF program had significantly **reduced industrial COD emissions by more 25%,** with even greater reductions since.

- Substantial room remains to improve environmental decentralization via central supervision in China.

Upscaling Market-Based Instruments for Air Pollution Reduction

- Switch subsidies earmarked for fossil fuels into incentives and encouragement for a sustainable and low-carbon energy future.

Figure 1: Estimated effect of subsidy removal and reallocation on greenhouse gas emissions

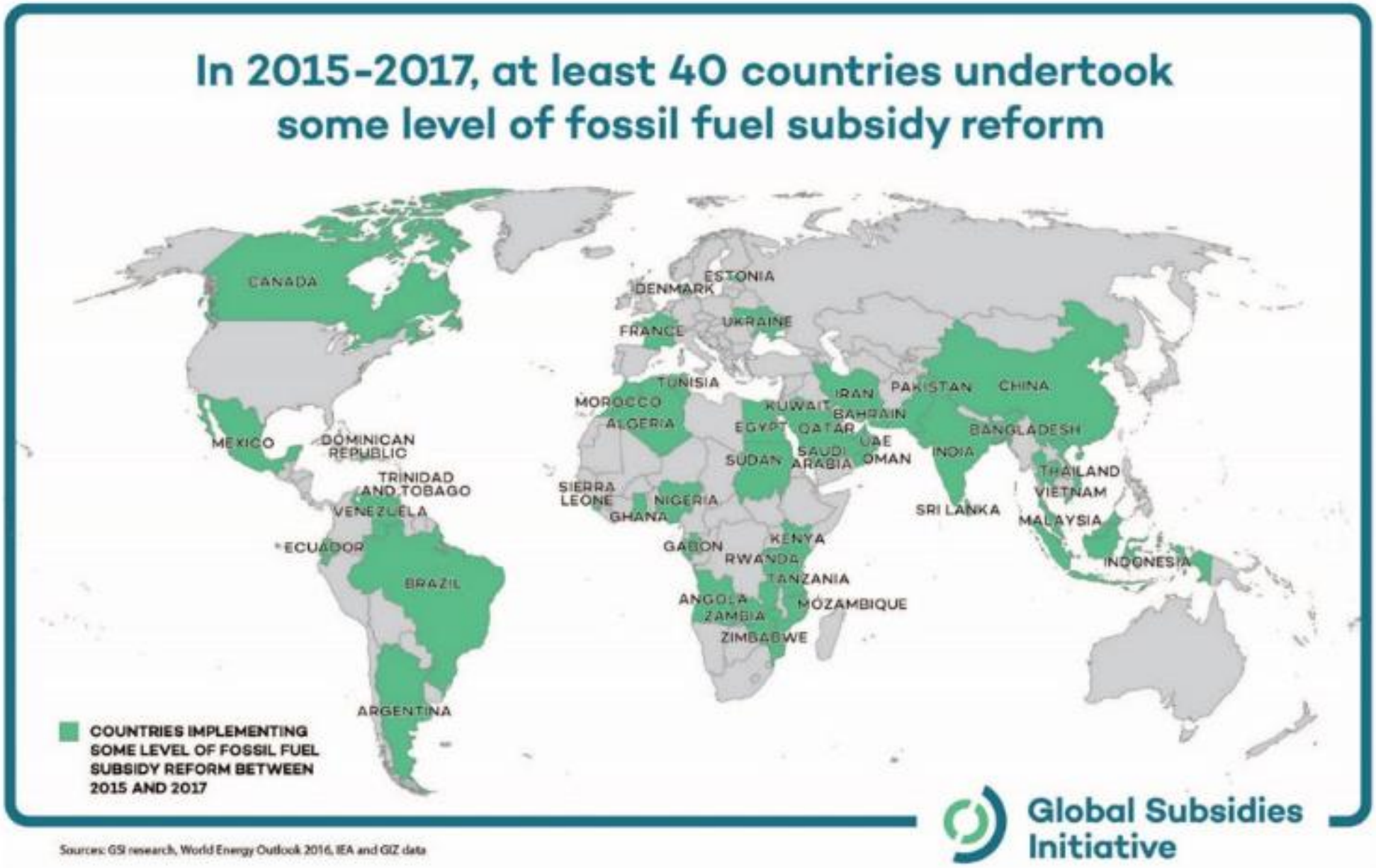


Note: Average emissions reductions from fossil fuel subsidy reform across 20 countries with 10% of savings invested in renewables and 20% in energy efficiency (as against business as usual [BAU]).

Source: Merrill & Bassi et al., (2015).

Effective Fuel Subsidy Reform requires…

- Target measures to protect the poorest and ***most vulnerable*** groups.
- Appropriately ***phased price increases***.
- Far-reaching ***communication strategy*** and ***transparency*** mechanisms.



Source: GSI research, World Energy Outlook (2016), IEA and GIZ data.

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