# Top Down, Bottom Up, and Horizontal Linkages in Climate Change Policy Making: Signs of Diffusion

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# International Environmental Agreements

- How important are they?
- What do we really expect from them?
- To what extent are they stimulating other parallel processes?

# International Negotiations

- Monitoring and reporting requirements (National Action Plans)

- Norm diffusion
- Idea diffusion
- Process of regulatory competition
- Leadership competition??
- Stimulation of action at other levels, by other actors (sometimes out of frustration at lack of action at the international level)

# National Climate Action Plans

International negotiations stimulating national action plans

- China 2007
- India 2008

# China: National Climate Change Programme (June 2007)

1. Climate change visible in China
2. Emission intensity improving (5.47kgC02/$US in 1990 →2.76kgC02/$US in 2004)
3. Developed countries have primary responsibility
4. Develop low carbon and renewable energy
5. Nation-wide tree planting
6. Family planning
7. New institutions and laws
8. Climate change research and capacity building

# Objectives

2010

- 20% reduction in energy consumption per unit GDP
- 10% share for renewables in total energy mix
- 20% forest coverage
- Stabilize NOx emissions from industrial sources at 2005 levels
- Enhance adaptation capacity, education, R&D

2015

- 15% share for renewables in total energy mix (there is some discussion of this being increased to 18-20%)

# India National Climate Action Plan

- National Solar Mission: The NAPCC aims to promote the development and use of solar energy for power generation and other uses with the ultimate objective of making solar competitive with fossil-based energy options. The plan includes:
- Specific goals for increasing use of solar thermal technologies in urban areas, industry, and commercial establishments;
- A goal of increasing production of photovoltaics to 1000 MW/year; and
- A goal of deploying at least 1000 MW of solar thermal power generation.
  Other objectives include the establishment of a solar research center, increased international collaboration on technology development, strengthening of domestic manufacturing capacity, and increased government funding and international support.

# India's National Action Plan

- National Mission for Enhanced Energy Efficiency: Current initiatives are expected to yield savings of 10,000 MW by 2012. Building on the Energy Conservation Act 2001, the plan recommends:
- Mandating specific energy consumption decreases in large energy-consuming industries, with a system for companies to trade energy-savings certificates;
- Energy incentives, including reduced taxes on energy-efficient appliances; and
- Financing for public-private partnerships to reduce energy consumption through demand-side management programs in the municipal, buildings and agricultural sectors.
- National Mission on Sustainable Habitat: To promote energy efficiency as a core component of urban planning, the plan calls for:
- Extending the existing Energy Conservation Building Code;
- A greater emphasis on urban waste management and recycling, including power production from waste;
- Strengthening the enforcement of automotive fuel economy standards and using pricing measures to encourage the purchase of efficient vehicles; and
- Incentives for the use of public transportation.

# India's Nat'l Climate Action Plan

- National Water Mission: With water scarcity projected to worsen as a result of climate change, the plan sets a goal of a 20% improvement in water use efficiency through pricing and other measures.
- National Mission for Sustaining the Himalayan Ecosystem: The plan aims to conserve biodiversity, forest cover, and other ecological values in the Himalayan region, where glaciers that are a major source of India's water supply are projected to recede as a result of global warming.
- National Mission for a "Green India": Goals include the afforestation of 6 million hectares of degraded forest lands and expanding forest cover from 23% to 33% of India's territory.
- National Mission for Sustainable Agriculture: The plan aims to support climate adaptation in agriculture through the development of climate-resilient crops, expansion of weather insurance mechanisms, and agricultural practices.

  National Mission on Strategic Knowledge for Climate Change: To gain a better understanding of climate science, impacts and challenges, the plan envisions a new Climate Science Research Fund, improved climate modeling, and increased international collaboration. It also encourage private sector initiatives to develop adaptation and mitigation technologies through venture capital funds.

# EU Action on Climate Change: To What Extent has Europe helped shape the debate?

- The EU aims to cut CO2 emissions:
  - by 8% on 1990 levels by 2008-12 (Kyoto)
  - by 20% by 2020 (30% if other developed countries commit to comparable reductions)

  - (tied to a goal of saving 20% of energy consumption through energy efficiency improvements by 2020)

- EU-wide $CO_2$ emissions trading scheme operational since January 2005

# Burden Sharing: National Renewable Targets for 2020 (flat rate increase in renewables of 5.5 % above existing levels & additional increase based on per cap GDP):

- Belgium 13%
- Bulgaria 16%
- Czech Republic 13%
- Denmark 30%
- Germany 18%
- Estonia 25%
- Ireland 16%
- Greece 18%
- Spain 20%
- France 23%
- Italy 17%
- Cyprus 13%
- Latvia 40%
- Lithuania 23%
- Luxembourg 11%
- Hungary 13%
- Malta 10%
- Netherlands 14%
- Austria 34%
- Poland 15%
- Portugal 31%
- Romania 24%
- Slovenia 25%
- Slovak Respublic 14%
- Finland 38%
- Sweden 49%
- United Kingdom 15%

# Renewable Energy Targets

EU 2020  20%

- US (Waxman Markey (6% in 2012, 9.5% in 2014, 13% in 2016, 16.5% in 2018, and 20% in 2021-2039))
- Canada (achieving 90% of electricity needs without emitting ghgs by 2020)

- Australia  45,000 GWh 2020  (20%)

International level: Formation of IRENA

# Renewable Energy Targets

- **India** 25% renewables by 2020

  (National Climate Change Strategy 20 gigawatts (GW) solar by 2020 and 200 GW by 2050)

  **South Africa** 10,000 GW by 2013

- **China** 2010 10%; 2015 15%

  (2020 target for solar 20 GW)

# Emissions Trading

EU Emissions trading system (2005; 2008; 2013)

US (Waxman-Markey cap and reduce: 3% of 2005 levels by 2012; 17% by 2020; 42% by 2030; 83% by 2050)

RGGI annual cuts in CO2 emissions by 2.5 percent per year after this (total 10 % reduction by 2019 in each state )

Japan, Australia, Canada

# Western Climate Initiative

Announced Sept 2008; begins in 2012.

released plans for a cap-and-trade system

Covers nearly 90% of the region's emissions, (electricity, industry, transportation, and residential and commercial fuel use)

- reduce emissions by 15% of 2005 levels by 2020 and between 50 and 85% by 2050








# Reforestation

- "Green India": afforestation of 6 million hectares of degraded forest lands and expanding forest cover from 23% to 33% of India's territory.

- China part of National Climate Action Plan (20% forestation of country by 2010)

- Tree Planting Campaign Hits Four Billion Mark

- **Roll of Honour: Top 10 tree-planting countries**
- Ethiopia 1.4 Billion
- Turkey 707 Million
- Mexico 537 Million
- People's Republic of China 236 Million
- Kenya 143 Million
- Cuba 137 Million
- Indonesia 100 Million
- India 88 Million
- Republic of Korea 50 Million
- Rwanda 50 Million

# Local Communities

Divergence at national level to an extent being mitigated by action at local level

# Tokyo Climate Initiative

- Tokyo Metropolitan Government established a 10-Year Project for a Carbon-Minus Tokyo in June 2007.
- The plan calls for a reduction in Tokyo's greenhouse gas emissions by 25 percent from the 2000 level by 2020.

(per capita CO2 emissions in Tokyo are already 20-30 percent lower than in New York and London)

# European Green Capital award

Stockholm and Hamburg: the first recipients of the European Green Capital award

Stockoholm: Public Transport carries more than 700.000 passengers every day, with the underground running on renewable energy and 50% of the buses to be fuelled with renewable sources by 2011. Along with Congestion Charges, car use has been reduced by 20%. The city achieved a 25% decrease in CO2 emissions per capita compared with 1990.

Hamburg: CO2 reduction goal of 40% by 2020 and 80% by 2050 compared to 1990 levels

# U.S. Mayor's Climate Protection Agreement

As of 2009

over 900 mayors of U.S. cities, representing over 80 million Americans, have agreed to strive to meet or exceed the Kyoto Protocol targets.

# European Covenant of Mayors' Initiative on climate change

February 2009

400 cities agreed to a, pledging to go beyond the EU's 20 percent greenhouse gas reduction goal by 2020

# International Networks for Climate Change/Sustainability Activities

ICLEI – Local Governments for Sustainability (Cities for Climate ProtectionTM (CCP))
Clinton Climate Initiative (CCI)-  (C40 Large Cities Climate Leadership Group)
World Mayors Council on Climate Change (WMCCC)
The Brundtland City Energy Network (BCEN)
Sustainable Cities: PLUS Network
United Cities and Local Governments (UCLG)
Metropolis
European Sustainable Cities and Towns Campaign
Energie-cités
Eurocities
The Climate Group
Mayors Climate Protection Center
Reset net
Cities Development Initiative for Asia (CDIA)
Asian Cities Climate Change Resilience Network

# C40 Large Cities (http://www.c40/seoulsummit.com/)

cities alone consume approximately three-quarters of the world's energy and produce about 80 percent of anthropogenic greenhouse gas emissions.

# C40 Large Cities in Asia

| | |
|---|---|
| Bangkok, Thailand | 8,160,552 |
| Beijing, China | 15,380,000 |
| Delhi NCT, India | 17,000,000 |
| Dhaka, Bangaladesh | 6,700,000 |
| Hanoi, Vietnam | 3,399,000 |
| Hong Kong, China | 6,985,000 |
| Jakarta, Indonesia | 8,389,000 |
| Karachi, Pakistan | 16,500,000 |
| Mumbai, India | 13,000,000 |
| Seoul, South Korea | 10,300,000 |
| Shanghai, China | 18,450,000 |
| Tokyo, Japan | 12,800,000 |