

# Urban Climate Change -- looking beyond the EU

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CENTER FOR ENERGY,  
MARINE TRANSPORTATION  
AND PUBLIC POLICY



# CEMTPP

- Energy policy research institute at Columbia/SIPA
  - Global energy and climate markets, policy, and geopolitics
  - Urban Energy Program
  - Marine Transportation policy and markets
- Urban Energy Program research
  - Highly collaborative
  - Technology, markets, policy, regulation from an urban perspective
  - Global focus (EU, China, US, South America), but regular collaboration with NYC City Hall
  - Mayoral training program (JUCCCE/China)
  - Effects of climate change on urban energy systems (NASA + international consortium)
  - Microgrids and other forms of DG appropriate to cities
  - Buildings energy policy (IDDRI/CCICED)
  - Urban Energy Demand modeling (IEA)



## Overview

- Global embrace of the urban energy and climate agenda
  - US
  - China
  - International institutions
- Trends in contemporary city-level energy and climate research
  - Climate change adaptation
  - Technology and regulatory changes
- Key takeaways



# U.S. Energy Efficiency and Conservation Block Grant Program

- Part of 2009 economic stimulus package
- \$2.7 billion for states (28%), local government (68%), Indian tribes (2%) + competitive grants (2%)
- Purpose:
  - Develop energy efficiency + climate plans
  - Consulting support
  - Building audits
  - Financial incentive programs
  - Public education
  - Transport planning (separate from transport infrastructure money)
  - Technology deployment (DG + district energy, methane capture, recycling)
- **Impact = single-most important boost to U.S. urban-scale energy policymaking in 30 years**



## U.S. -- \$ focus on R&D, deployment, and green jobs

- 2009 American Recovery and Reinvestment Act
  - \$113b over two years
  - R&D + deployment
    - Clean fuels
    - Rail projects
    - Energy efficiency
    - Efficient automobiles
- Green jobs efforts led by President's Council on Environmental Quality
  - Nancy Sutley, *Chairperson*, former deputy Mayor of Energy and Environment, City of Los Angeles
  - Van Jones, *Special Advisor for Green Jobs, Enterprise and Innovation*, well-known activist + author of *Green Collar Economy*
- **Impact = too soon to tell**



## China “Energy Smart Cities”

- Collaboration between Joint US-China Cooperation on Clean Energy (JUCCCE) + National Training Center for Mayors of China
  - CEMTPP UEP responsible for curriculum development + support materials
- Commenced May 2009
  - 3-year agreement, 1- and 7-day trainings
  - 300 Mayors/Vice Mayors/SOE executives
- Top urban policymakers + international experts
  - London + NYC, McKinsey, Arup, Alliance to Save Energy, HDR Engineering, Covanta, World Bank
- Emphasis on energy efficiency + energy-related economic development
- Nexus to China interest in “eco-city” development?
- **Chinese cities playing catch-up compared to cities around the world, impact = too soon to tell**



## Cross-boundary planning and implementation efforts

- C40 (next week in Seoul)
  - Policy platform for Copenhagen COP
- UN-Habitat -- Cities and Climate Change Initiative
- Asian Cities Climate Change Resilience Network (Rockefeller Foundation)
- World Bank -- Climate Change Adaptation Handbook for Mayors
- World Bank -- Cities, Climate Change and Finance Symposium @ Barcelona Carbon Expo
  
- **Multiple groups trying to lay claim to this issue**
- **Lack of coherent agenda -- a seat at the table, or just more money?**



# Research Trends -- Impacts of Climate Change on Cities

- Mitigation still dominates, but adaptation finally on the radar screen
  - NYC, Chicago, Toronto, London etc.
- Broadly focused
  - Climate science (downscale GCMs to city-scale)
  - Energy, transport, telecom, water sectors
  - Coastal zone impacts
  - Public health (heat + vectors)
  - Biodiversity



## Cross-boundary urban-scale research initiatives

- IPC3 -- “an IPCC for mayors”
  - 50+ scientists
  - To be released at Copenhagen COP
- IHDP -- Urbanization and Global Environmental Change project (UGEC)
- World Bank -- Energy Efficient Cities Rapid Assessment Framework
- World Bank -- City Indicators project
- **Impact: creating foundation for science-based decisionmaking. Links to policymaking community are still tenuous, however.**



## Research trends -- regulatory + technology “game changers”

- Technology trends -- not much new on the horizon except heightened focus on plug-in hybrids/EVs
- Regulatory trends -- no major overhaul of energy regulatory system to enhance local powers observed or anticipated
- Microgrids = a key exception?
  - Promotes competition in local energy distribution
  - Links to much-hyped SmartGrid development efforts
  - Several US states examining this issue, potential for significant local authority engagement



## Key takeaways

- Dramatic increase in international initiatives with local focus, but still early days with some confusion over preferred action agenda
- Adaptation = finally on radar screen, but has far to go to catch up to mitigation efforts
- No fundamental shift in institutional approach re: energy or climate planning
  - Nation/state/province still take lead
  - Cities accessing new resources
  - Microgrids an interesting exception?



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