

# *Renewable Power:*



*An important part of NYC's  
electricity picture?*

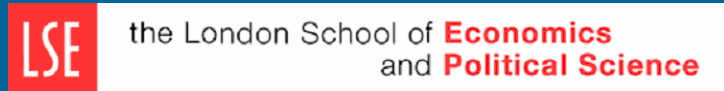
Presented by:

Stephen A. Hammer

14 April 2004

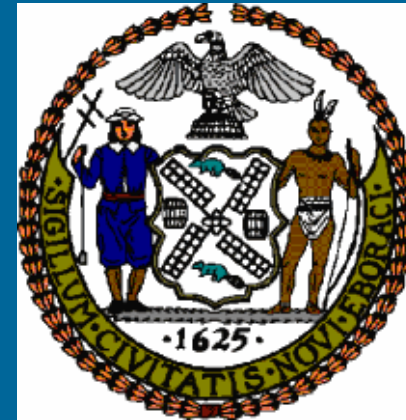
Conference on “Creating the High Performance City”

Sponsored by the Comptroller of the City of New York



# Renewables in NYC

- Long history of local interest in renewable power sources and use
  - Dutch windmills
  - City access to upstate hydro
  - Citicorp Tower designed to accommodate solar PV



# Implementation has been weak, however...

- Total installed electric generation capacity in NYC = 8,760 MW
- Total installed renewable power generation capacity in NYC = ~2 MW
  - Solar PV, anaerobic digesters + fuel cells

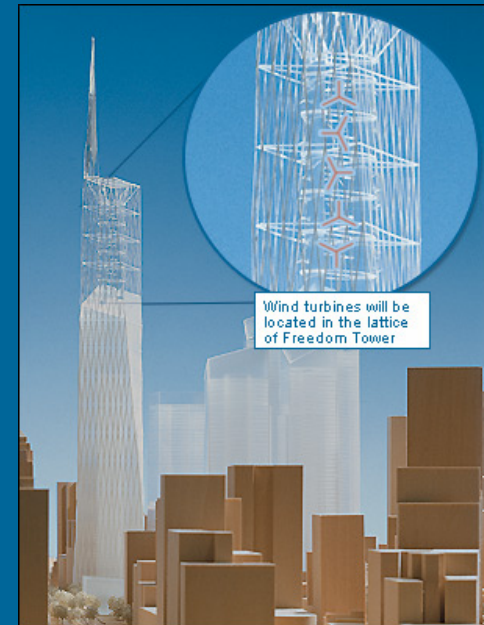
# Who is deploying renewables in NYC?

- Government
  - Transit Authority car barns & subway stations
  - Sewage treatment plants
  - Whitehall Ferry Terminal
- Residential
  - Individual households
  - Multi-family dwellings



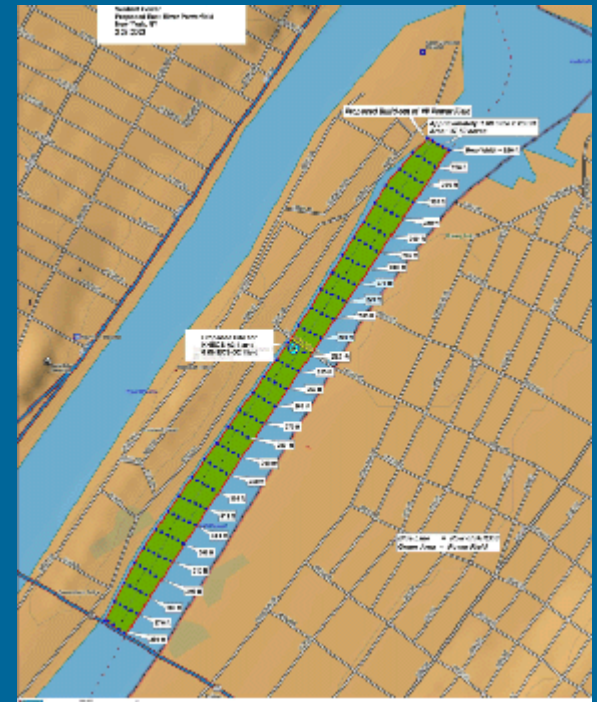
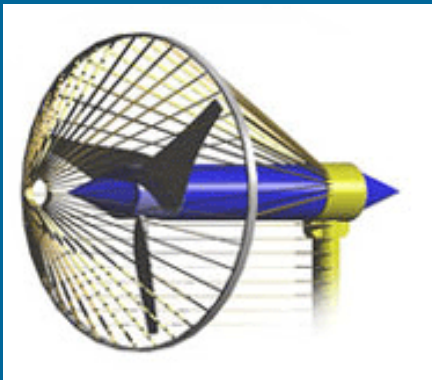
# Who is deploying renewables in NYC?

- Commercial
  - Greenpoint Manufacturing & Design Center
  - 4 Times Square
  - Jets Stadium
  - Freedom Tower



# Who is deploying renewables in NYC?

- Merchant power generators
  - Verdant Power East River project = underwater turbines harnessing natural tidal flow
  - 5-10 MW of power



# How does NYC compare to other cities?

<b>City</b>	<b>Current In-City Renewables Capacity (MW)</b>	<b>Source</b>
<b>Barcelona</b>	<b>10.5</b>	<b>Solar PV, Solar Thermal, Biogas</b>
<b>Berlin</b>	<b>25.1</b>	<b>Biomass, Solar PV, Wind</b>
<b>London</b>	<b>1.0</b>	<b>Solar PV</b>
<b>Los Angeles</b>	<b>7.5</b>	<b>Solar PV</b>
<b>New York</b>	<b>2.0</b>	<b>Biogas, solar PV</b>
<b>San Diego</b>	<b>1.5</b>	<b>Solar PV</b>

# Prospects for Renewables in NYC

According to NYSERDA study, by 2022:

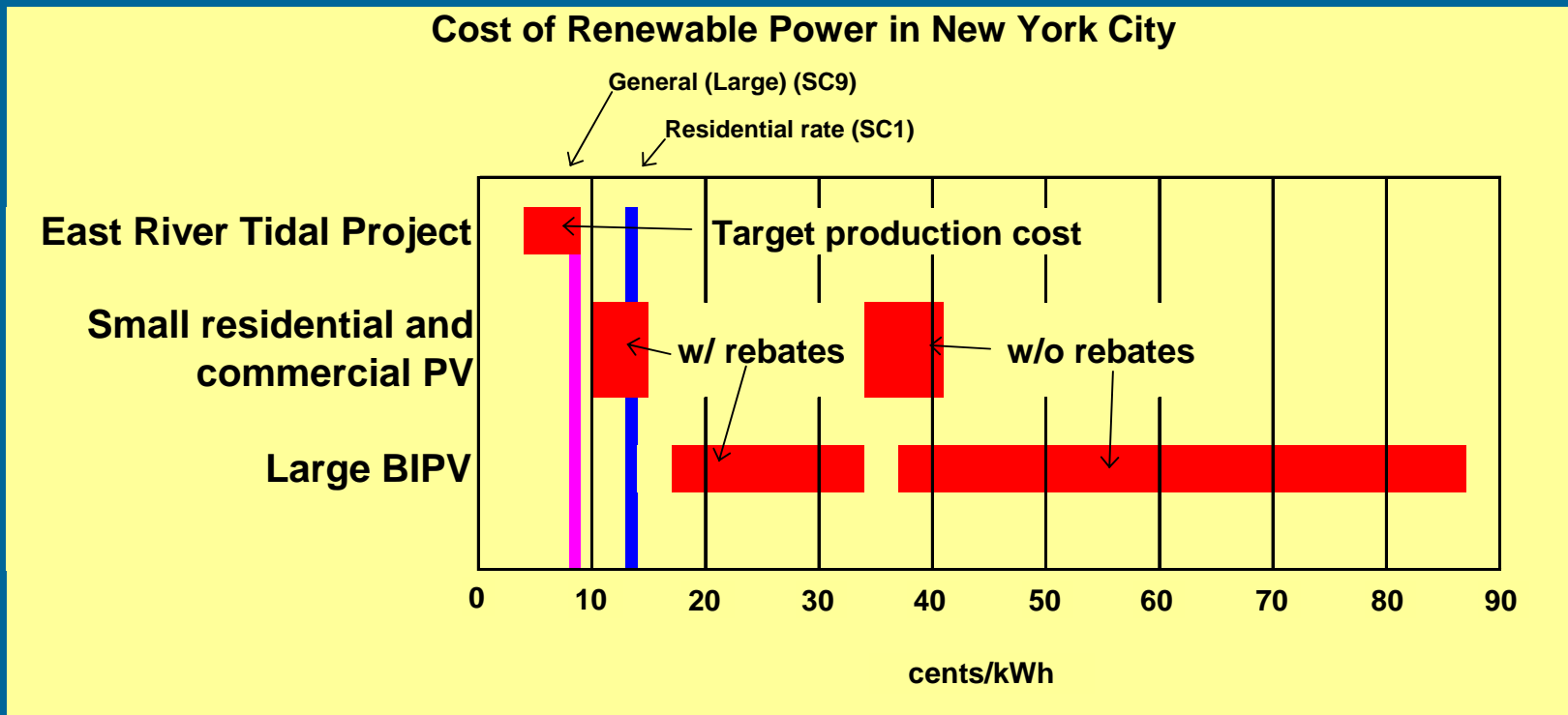
- Fuel cells: 3-309 MW
- Solar PV: 330-876 MW
- Small wind: up to 12 MW
  
- Biomass & Hydro = limited potential

# Biggest Factors Affecting Renewables Deployment in NYC

# 1) Renewables not a high priority

- Around NYC, consensus they're not a viable source of large amounts of power
  - Mayor's Energy Task Force largely ignored them
- Switching to natural gas power plants seen as “green” enough

## 2) Renewables cost more



# 3) Interconnection issues

- Con Ed grid designed for one-way flow of electricity
- Options:
  1. Shrink size of system so no backfeed or install reverse power relay
    - Easy but both affect cost-effectiveness
  2. Sell surplus power to Con Ed or neighbors
    - Many regulatory hoops; latter is not allowed under current tariffs

## 4) Preference for Voluntary Action over Mandates

- DDC Green Building guidelines voluntary for new government projects
- But why? Battery Park City Authority says mandates work:
  - 5% of power needs from on-site renewables
  - 30% of total power demand from green sources

# Final observations...

- Absence of any clear linkage of local electricity planning to climate change concerns is striking.
- Renewables can be seen as the source of jobs, not just electricity.
  - Manufacturing
  - Installations
  - Design and consulting services

**For more information:**

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