Tokyo Cap-and-Trade
Driver for a Low Carbon City

Bureau of Environment Tokyo Metropolitan Government
1. Remarkable results!

2nd Year Report
Green Buildings Era in Tokyo
The results of the second year report 1

In total 23% Reduction from the base-year emissions
Cf. Their obligated reduction: 6 % or 8%

93% of the covered facilities reduced more than the obligations

1. Remarkable results!
The results of the second year report 2

About **5,500** reduction measures in 5 years

**826,700 t-CO2** will be reduced by these measures

1. Remarkable results!
Green Buildings Era in Tokyo
Low Emission Buildings TOP 30 in Tokyo

1. Remarkable results!

Sony City
Sony Corporation

Existing Buildings Section
Retrofits

Roppongi Hills
Mori Building Co., Ltd.

Tokyo Midtown
Mitsui Fudosan Co., Ltd.
East Japan Railway Company
Mitsubishi Estate Co., Ltd.
Low Emission Buildings TOP 30 in Tokyo

New Building Section - Green Building Design

1. Remarkable results!

- Techno-Station
  - Obayashi Corporation

- New Headquarters Construction Project
  - Shimizu Corporation

- Marunouchi Park Building
  - Mitsubishi Estate Co., Ltd.

- JP Tower
  - Japan Post Network Co., Ltd.
  - East Japan Railway Company
  - Mitsubishi Estate Co., Ltd.
2. Development & Outline of Tokyo’s Cap-and-Trade Program
Tokyo’s GHG Emission Reduction Target

25% below 2000 levels by 2020
Tokyo Carbon Dioxide Footprint

Total CO₂ Emissions: **59** million tonnes (FY2010)

Emissions

- Transportation: 23%
- Commercial & Industrial: **47%**
- Households: 28%

Number of Facilities

- Large CO₂ emitting facilities: 1,400 facilities = 0.2%
- Small & medium CO₂ emitting facilities: More than 700,000 facilities = 99.8%

2. Program Development & Outline
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**Program Development**

<table>
<thead>
<tr>
<th>2002</th>
<th>2005</th>
<th>2010</th>
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**Reporting program**
(CO\textsubscript{2} Emission Reporting Program)
*Not mandatory reduction program*

Reduction target averaged only 2%

**Mandatory reduction program:**
Tokyo Cap-and-Trade Program

Accumulation of data helped to design a tailor-made C&T
2. Program Development & Outline
Allowance Allocation

Emission Allowance = \left( \text{Base-year emissions} \times (100\% - \text{Compliance factor}) \right) \times 5 \text{ years}

Compliance factor by category

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Compliance Factor</th>
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<tbody>
<tr>
<td>I -1</td>
<td>Commercial buildings, District cooling &amp; heating facilities (plants)</td>
<td>8%</td>
</tr>
<tr>
<td>I -2</td>
<td>Commercial buildings using DHC</td>
<td>6%</td>
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<tr>
<td>II</td>
<td>Factories, etc.</td>
<td>6%</td>
</tr>
<tr>
<td>Top level</td>
<td>Certified facilities as: Top Level / Near-top level Facility</td>
<td>1/2 or 3/4 of the compliance factor</td>
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3. Challenges
Stakeholder Engagement
Stakeholder Meetings

Associate Participants:
Business Groups
Companies with interests
Environmental NGOs
Tokyo Metropolitan Government

Open to the public
About 200 audience members every time

3. Challenges
Discussion Points at the Meetings 1

Major Objections 1

Fair allowance allocation is impossible!
For some facilities, further reductions are impossible

TMG: Show reduction potential by data

"Top Level Facility Certification"

3. Challenges
3. Challenges

Tenant Obligation and Participation System Rules for Tenant Shifts

Major Objections 2

Difficulties in Tenant Buildings
Controlling emissions from tenants is impossible!

TMG: Establish a mechanism for tenant issues
4. What we learned: Important factors

Three misunderstandings for energy efficiency

Key factors for success
Need to break misunderstandings on building energy efficiency

Typical complaints from building owners

1. We have already done a lot!
2. We know our buildings well; there’s nothing else we can do!
3. It’s costly to retrofit. We can not afford it!
Overcoming the Power Crisis after the Fukushima accident

Peak Power Consumption (from 1 July to 31 Aug.)

- **Peak load in 2010**: 59.99 GW
- **Peak load in 2012**: 50.78 GW

4. Lessons
Preparedness for the Power Crisis

1. Already did energy audits
2. Already have action plans
3. Already have communication

4. Lessons
The Importance of Cities’ Role
Thank you!

TMG Website
www.kankyo.metro.tokyo.jp/eng

Facebook
www.facebook.com/Environment.TMG

Contact
tokyoets@kankyo.metro.tokyo.jp