Policy practices for low-carbon towns in OECD countries

Tadashi Matsumoto, Ph.D.
Project Manager, Urban Green Growth / Knowledge Sharing Regional Development Policy Division, OECD

Presentation at the 1st APEC Low Carbon Model Town Symposium
14 September 2017 – Jakarta, Indonesia
Framing today’s presentation

1| Key policy consideration for low-carbon towns
   • Role of cities
   • Policy complementarities and synergies
   • Governance and financing arrangement

2| Policy practices in OECD (and some non-OECD) countries, based on OECD’s green cities / urban green growth work
1. Key policy consideration for low-carbon towns
Cities are part of the problem, but central to the solution

Key facts:

• 2% of OECD regions generate roughly 1/3 of all GDP growth in the OECD

• By 2100, urban population will account for 85% of the estimated global population

• Cities account for an estimated 67% of global energy use and 71% of global energy-related CO₂

• Cities are closer to citizens’ needs, have better knowledge of local conditions, and can test innovative ideas locally
Cities are key economic actors

Subnational direct investment as a % of public direct investment (2012)

- Rest of public sector (central government and social security)
- Subnational governments (States, regions and local governments)
Policy complementarities and synergies can be generated more in cities

For example, compact city policies can generate synergistic impacts:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Environmental impacts</th>
<th>Social impacts</th>
<th>Economic impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorter intra-urban distances</td>
<td>Fewer CO2 emissions, less pollution</td>
<td>Higher mobility for all households, lower travel costs</td>
<td>Higher productivity due to shorter travel time for workers</td>
</tr>
<tr>
<td>Better access to diversity of local services and jobs</td>
<td>-</td>
<td>Higher quality of life due to access to local services (shops, hospitals, etc.)</td>
<td>Skilled labour force attracted by high quality of life; Greater productivity due to diversity, vitality, innovation and creativity</td>
</tr>
<tr>
<td>More efficient public service delivery</td>
<td>-</td>
<td>Public service level for social welfare maintained by improved efficiency</td>
<td>Lower infrastructure investments and cost of maintenance</td>
</tr>
</tbody>
</table>

Source: OECD (2012), *Compact City Policies: A Comparative Assessment*
## Linking multiple policy objectives to drive low-carbon growth

<table>
<thead>
<tr>
<th>Policy objectives</th>
<th>Effective low-carbon growth policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs</td>
<td>- Energy-efficiency building retrofits&lt;br&gt;- Public transport&lt;br&gt;- Waste management / recycling</td>
</tr>
<tr>
<td>Urban attractiveness</td>
<td>- Public transport&lt;br&gt;- Public service delivery (e.g. waste)</td>
</tr>
<tr>
<td>Green products and services</td>
<td>- Green products and service specialisation&lt;br&gt;- Green technology R&amp;D and innovation activities</td>
</tr>
<tr>
<td>Urban land values</td>
<td>- Infill and mixed use redevelopment&lt;br&gt;- Reducing incentives for green-field development</td>
</tr>
</tbody>
</table>

Source: OECD (2013) Green Growth in Cities
Administrative boundaries are not the answer
Urban sprawl creates negative externalities in Metropolitan areas (MAs). Cooperation is a way to internalise the externalities when making policy decisions. 

\[\rightarrow\text{Sprawl decreased in MAs with governance body, but increased in those without!}\]

Difference significant at the 99%-level after controlling for log-population levels and country specific trends.
Metropolitan governance bodies can increase well-being

- Citizens are more satisfied in MAs that have sectoral authorities for public transport.
- Those MAs have also lower pollution levels (PM).

Share of Citizens Satisfied with Public Transport

Based on European Urban Audit perception survey. Difference significant at 95% level.
Cities need to increase their own revenues and develop diverse financing tools

**Attribution of local tax revenues within the total tax revenue (in 2013, %)**

Source: OECD (2015), Revenue Statistics in Asian Countries 2015: Trends in Indonesia, Malaysia and the Philippines
2. Policy practices for low-carbon towns in OECD countries
Policy practices in 11 categories

1. Facilitate in-fill redevelopment
2. Promote low-carbon neighbourhoods
3. Charge private car use to finance public transport
4. Develop shared mobility and non-motorised transport
5. Reduce energy intensity in industry
6. Reduce energy consumption and waste from buildings
7. Reduce municipal waste and promote recycling and waste-to-energy
8. Increase distributed renewable energy in cities
9. Supply skilled workforce for the green economy
10. Facilitate connections to spur green-tech innovation
11. Increase demand for low-carbon products and services
Opportunities / challenges

- Reducing green-field development, while increasing the asset value of the surrounding area.
- Complexity, costs

Practices in place

- Financial incentives for brownfield development
- Preferential property tax rate for multiple dwellings: Greater Copenhagen (Denmark), Sweden
- Two-rate property tax / tax on under-utilised land: Sydney (Australia), Denmark, Finland
- Special area tax / Development fees
- Refill rate: Portland (US)
Promote low-carbon neighbourhoods

Opportunities / challenges

• High-density, mixed-use neighbourhoods linked by public transit can make travel distance shorter and increase accessibility of urban services for all.

• Scaling up / inclusiveness

Practices in place

• High-dense, mixed use redevelopment: Hamburg (Germany), Stockholm (Sweden)

• Eco-quartier / eco-neighbourhood: France, Malmö (Sweden), Beddington (UK)

• Transit-oriented development: Arlington (US)
Opportunities / challenges

- Reducing auto use requires attractive public transit alternatives.
- Financing tools to discourage auto use can also accelerate public transit projects.
- ICT (dynamic pricing / fee collection)
- Political will and sectoral silos

Practices in place

- Value capture tax from public transport investment: Hong Kong (China), Miami (US), Milan (Italy)
- Congestion charges: Singapore, London (UK), Stockholm (Sweden)
- High-occupancy toll lanes / parking charges and fees
Develop shared mobility and non-motorised transport

Opportunities / challenges
• Car sharing can drastically reduce the number of travel and thus reduce carbon emissions.
• Integrating various transport modes can facilitate the use of public transport and non-motorised transport.
• Legal framework and sectoral silos

Practices in place
• Car sharing / Bicycle sharing
• Integrated fee system: Paris (France)
Reduce energy intensity in industry

Opportunities / challenges

• Circular economy practices can reduce energy intensity in industry and increase competitiveness.

• Industry can be located near urban centres, thus increasing accessibility to jobs.

Practices in place

• Eco-industrial park: Kalundborg (Denmark), Kitakyushu (Japan), Guigang (China), Rotterdam (Netherlands)

• Support for energy efficiency consulting for SMEs
Reducing energy consumption and waste from buildings

Opportunities / challenges

• Low-interest loans and innovative financing mechanisms can lower the barriers for property owners to invest in energy efficiency and renewable energy technologies.

• Building retrofits create local employment.

Practices in place

• Green building standards/incentives
• Energy efficiency retrofits for public buildings: Paris (France)
• ESCOs: Berlin (Germany)
• Local Emission Trading System: EU, Tokyo (Japan)
Opportunities / challenges

- Recycling, food composting, material re-use can minimise landfilled waste.
- Waste-to-energy technology can reduce fossil fuel based energy production.
- Separation at source / community engagement

Practices in place

- ‘Zero Waste’ ordinance (San Francisco, US)
- Comprehensive recycling strategy: Horsholm (Denmark), Stockholm (Sweden)
- Waste-to-energy: Amsterdam (Netherlands)
- Smart bin: Bristol (UK)
- Capture landfill methane gas: Sao Paolo (Brazil)
Increase distributed renewable energy in cities

Opportunities / challenges

• Green building standards for new buildings increase the provision of renewable energy for commercial and residential buildings

Practices in place

• Solar Thermal Ordinance: Barcelona (Spain)
• Requirement for the use of renewable energy for new buildings (Merton Rule): London (UK)
Opportunities / challenges

• Green human capital development is an effective means to adapt skills to the emerging needs of the green economy.

Practices in place

• Multi-stakeholder coordination committee for solar energy: Mitteldeutschland (Germany)
• Workforce development programme for clean energy: Massachusetts (US)
Opportunities / challenges

• Facilitating connections between university research and private sector R&D for green technologies spurs green tech innovation.

Practices in place

• Tax incentives and funding for green tech industrial zones and incubators

• Regional forum between businesses, universities and local governments: Øresund (Denmark / Sweden), Mitteldeutschland (Germany)

• Platform to support local SMEs to facilitate R&D: Paris (France)

• Business cluster to offer expert assistance: Lahti (Finland)
Increase demand for low-carbon products and services

Opportunities / challenges

• City governments can purchase low-carbon products and services by themselves, or promote green purchasing, so they can increase demand for low-carbon products and services.

Practices in place

• Procurement centre: Helsinki (Finland)

• Hydrogen fuel buses: Barcelona (Spain), Cologne (Germany), Hamburg (Germany), London (UK)

• Renewable energy purchasing: Calgary (Canada)
Conclusions

• Cities play a crucial role in fostering low-carbon growth, as they are major economic investors and have many policy instruments to engage at hand.

• Low-carbon targets can be best achieved when they are addressed together with economic and social targets.

• Rulemaking, regulatory oversight and financing structure for low-carbon growth will require effective coordination with national government (national price signals and standards are crucial).

• Metropolitan governance should be urgently established, as urban activities extend beyond administrative boundaries and interact strongly with periphery and rural areas.
FIND OUT MORE …
OECD’s expertise on urban policy

1. **Reviews of metro-regions and national urban policy** to identify opportunities to address competitiveness, sustainability and governance challenges

2. **Horizontal analyses** targeting, for example, urban competitiveness, climate change, port cities and green growth in cities

3. **Policy dialogue** on urban issues to facilitate knowledge exchange and best practices to inform policymakers’ agendas (Roundtable)

4. **Statistical indicators** on urban and metro-regions – the fundamental tools for enhancing cross-country comparison and improving policy evaluation
1. **Metropolitan reviews**: tailored studies assessing how a given metro-area can boost competitiveness and foster sustainability
   e.g. Chicago, Guangzhou, Rotterdam-Hague, Mexico City, Venice, ...

2. **National urban policy reviews**: tailored studies assessing national level policies which impact urban development in a country
   e.g. Poland, Korea, Chile, China, Mexico, Kazakhstan, Viet Nam, ...
Thematic work related to low-carbon growth

- OECD (2010), Cities and Climate Change
- OECD (2012), Compact City Policies: A Comparative Assessment
- OECD (2012), *Redefining Urban: a new way to measure metropolitan areas*
- OECD (2013), Linking Rural Development with Renewable Energy
- OECD (2013), Urban and rural linkages
- OECD (2013), Green Growth in Cities
- OECD (2015), *The Metropolitan Century: Understanding Urbanisation and its Consequences*
- OECD (2015), *Governing the City*
- OECD (2016), Urban Green Growth in Dynamic Asia
- OECD (2016), *OECD Regional Outlook 2016*
- OECD (2017), The Governance of Land Use
- OECD (2016), *Making Cities Work for All*
Policy Dialogues at OECD

• **OECD Regional Development Policy Committee / Working Party on Urban Policy**
  – OECD’s official meeting (twice a year) to discuss and exchange policies on regional development and urban issues among 35 member countries

• **OECD Roundtable of Mayors and Ministers (2007-)**
  – Unique global forum for mayors and ministers to exchange best urban policy practices
OECD Metropolitan Database

Interactive maps and data on OECD metro areas
http://measuringurban.oecd.org/
CONTACTS:

tadashi.matsumoto@oecd.org

www.oecd.org/greencities