

Experience of cities with international carbon markets and recommendations for future involvement

Axel Michaelowa

Senior Founding Partner

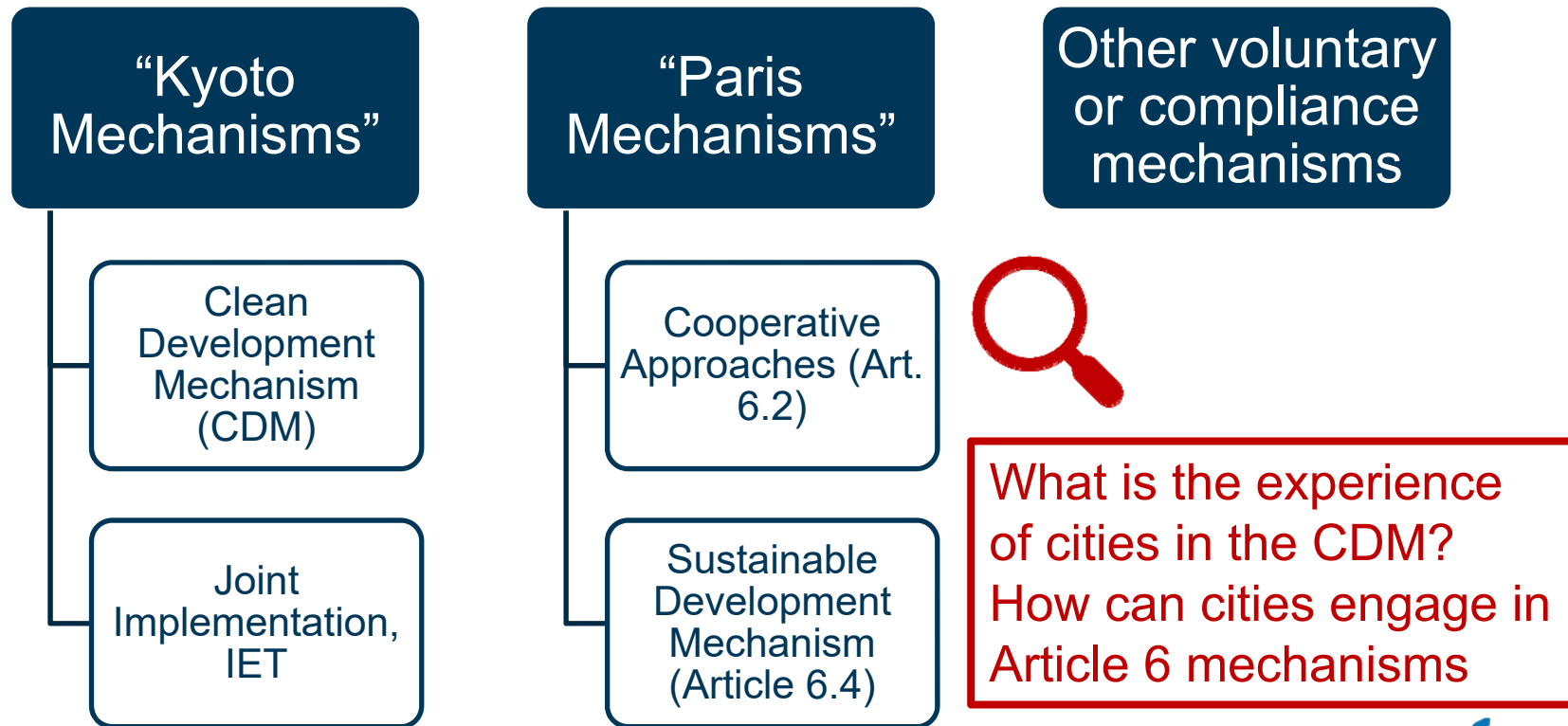
Online Webinar of the Climate Leadership Programme, CityNet
September 23, 2020

Agenda

- **Introduction**
- **Experience of cities with international carbon markets**
- **Opportunities for cities to engage with emerging carbon markets**
- **Recommendations for future involvement**



Setting the scene: international carbon markets



Features of emerging carbon markets under Article 6, PA

Article 6.2 'Cooperative Approaches'

- Between two or more countries, on the basis of **bilateral** agreements
- Involves the use of internationally transferred mitigation outcomes (ITMOs)
- No international oversight

Article 6.4 'Sustainable Development Mechanism'

- Open to all countries
- Contributes to GHG mitigation and sustainable development
- Similar features as CDM:
subject to international rules
→ successor mechanism

Common principles

- **Environmental integrity (→ additionality, NDC ambition)**
 - **Transparency, prevention of double counting**

High mitigation potential in cities...

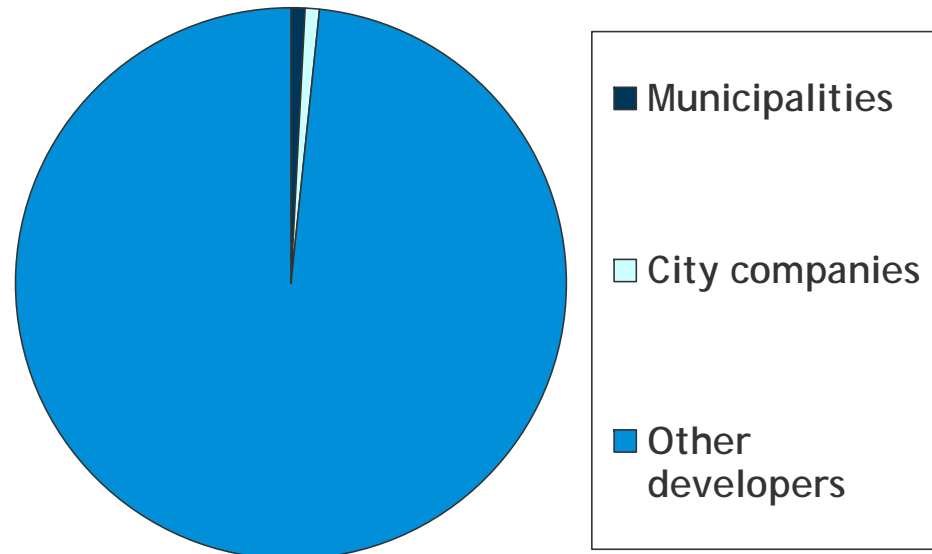
- “Urban areas account for **between 71% and 76% of CO₂ emissions** from global final energy use”.
- “The **largest opportunities for future urban GHG emissions reduction** are in rapidly urbanizing areas where urban form and infrastructure are not locked-in, but where there are often limited governance, technical, financial, and institutional capacities”.

IPCC AR5 (2014) – Chapter 12

...but so far low engagement of cities in carbon markets.

Example: Clean Development Mechanism

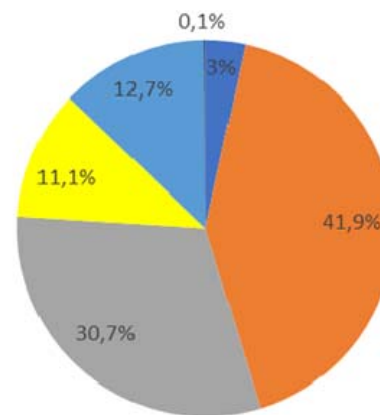
- CDM mobilized over 7500 projects between 2005 and 2017
- Projects from municipalities make up less than 1%
- Projects from “city companies” in China: 1%



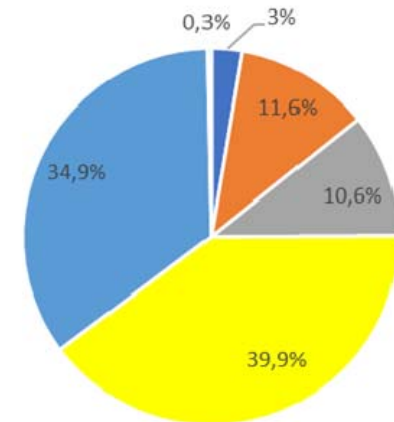
What about CDM activities in urban areas?

- ~22% of CDM projects relate to urban activities
- ~21% of these projects have issued carbon credits
- Issuance performance ranges from 35% (energy) to 69% (waste); transport is at 61%

Single Projects per Subsector



PoA per Subsector



Source: Perspectives and ICLEI 2020

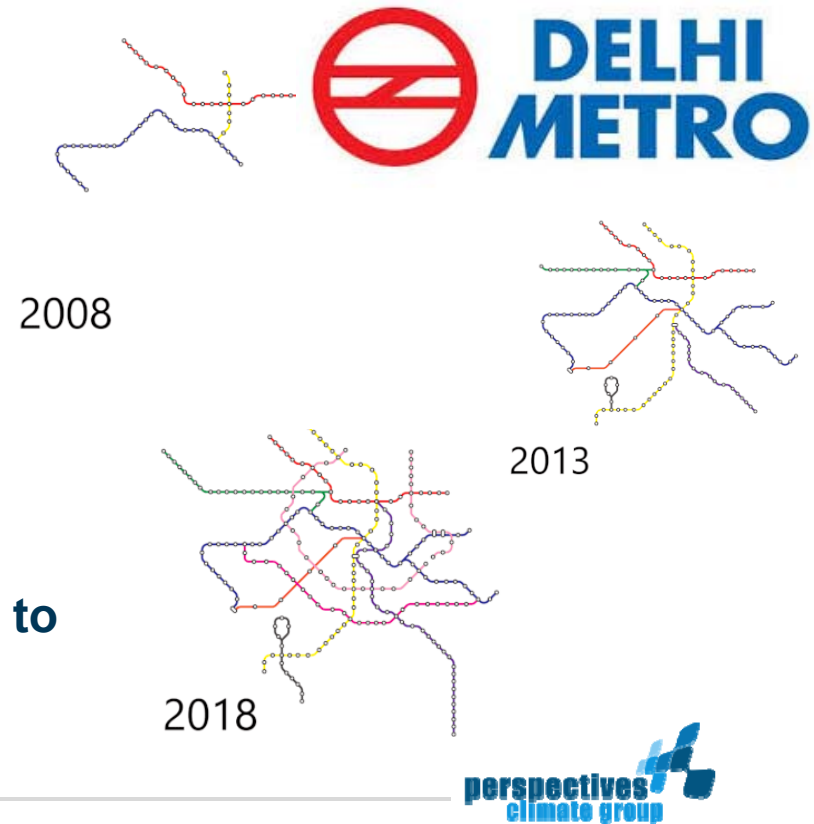


Barriers for engagement of cities in the CDM

- Mitigation potential concentrated in “diffuse” sectors
 - **Transport, buildings efficiency, waste**
- Upfront investments that cannot be covered from scarce municipal budget
- Weak institutional capacity and lack of skilled specialist staff
 - **Lack of competitiveness compared with CDM consultants**
- Complexity of CDM procedures
- Short-term perspective of municipal government due to electoral cycles
 - **Frequent changes in project design, long delays**

Delhi Metro – an unexpected success story

- 1998: Construction start
- 2002: First line opened
- 2006: 65 km line length, 0.5 million passengers per day
- 2011: 190 km line length, 1.7 million passengers per day
- 2019: 357 km line length, 2.3 million passengers per day
 - **Decline from 2.8 million in 2016 due to strong fare hikes**
- 2024: 461 km length envisaged



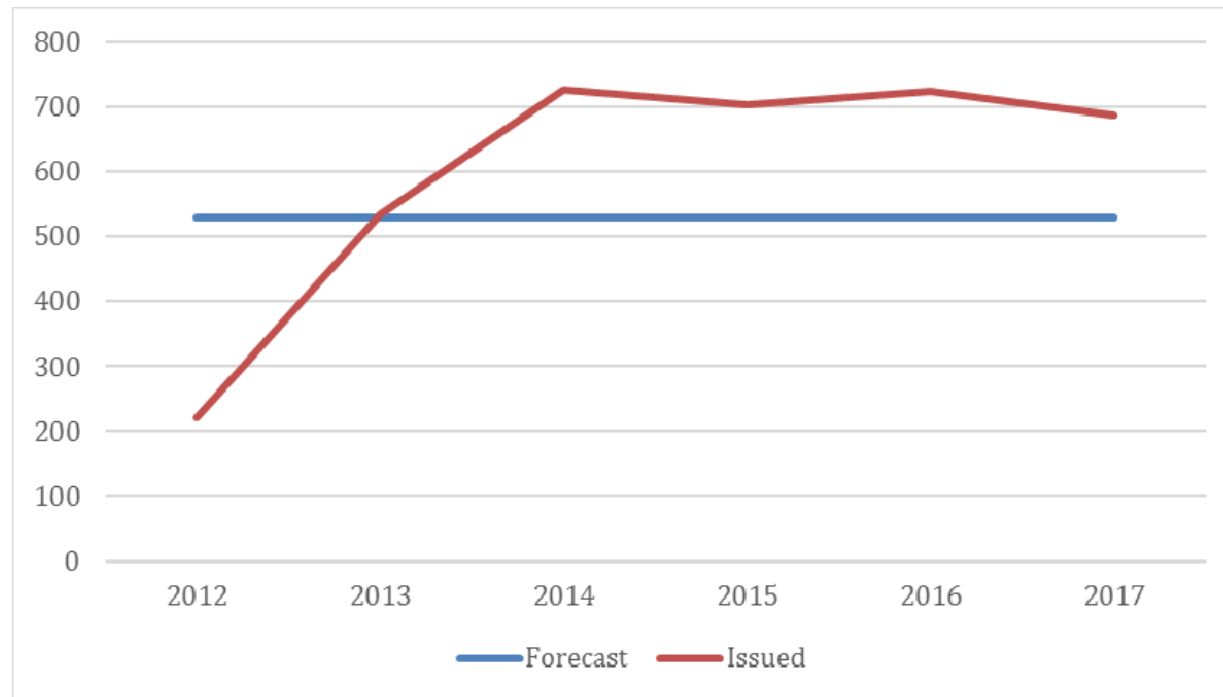
Delhi Metro – an unusual CDM cluster with high performance

- Registration of four CDM projects/PoAs between 2007 and 2017 for different technologies

2007	2011	2014	2017
EE:regenerative braking systems of metro carriages	Transport: modal shift from cars to metro	Transport: modal shift from cars to metro	Renewable energy: 15 MW photovoltaics
43.5 kCERs per year estimated, issuance performance 115%	520 kCERs per year estimated, issuance performance 135%	640 kCERs per year estimated, no issuance to date	18.5 kCERs per year estimated, monitoring report but no issuance

Delhi Metro – performance increase over time

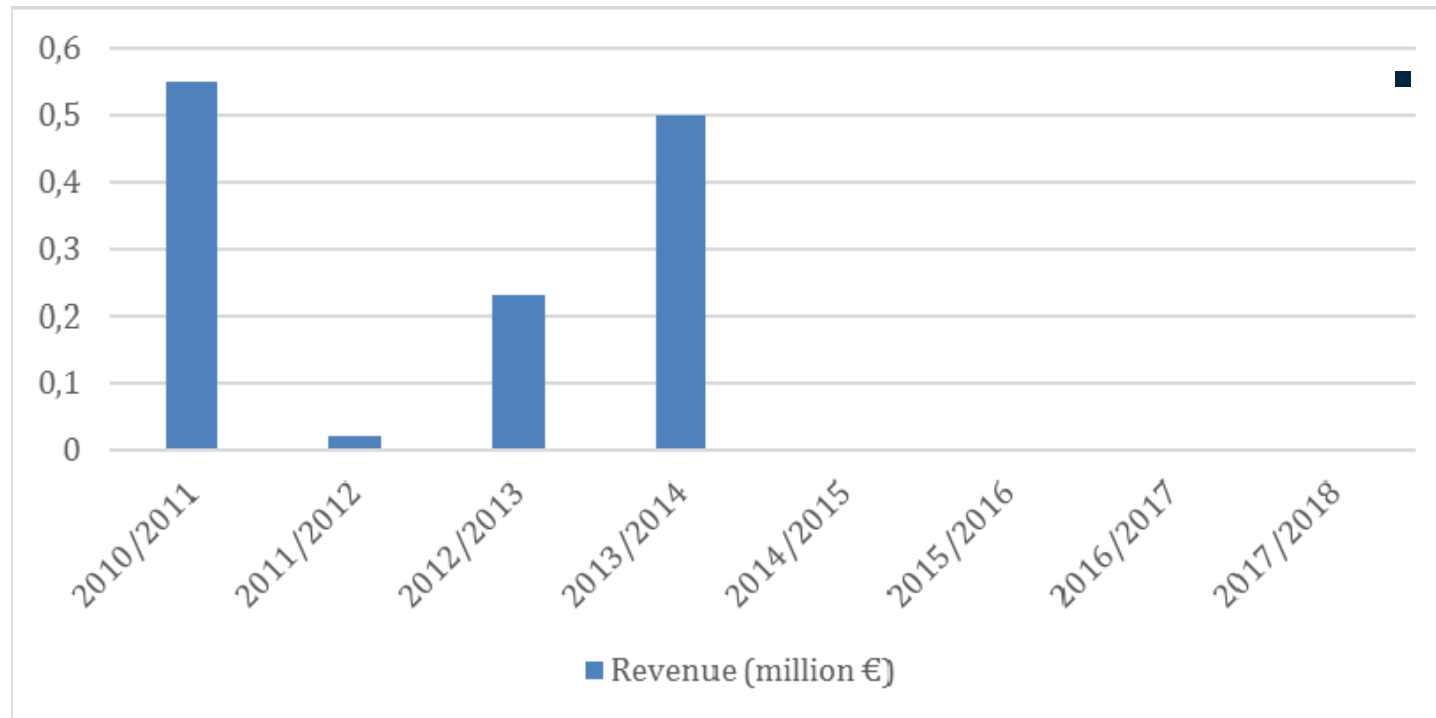
- Issuance performance of Modal Shift project (2011)



- Issuance was continued into the doldrums of the CDM market
- Delhi Metro still offers CERs on the free market

Source: Perspectives and ICLEI 2019

Delhi Metro – Revenues from CER sales



■ But in terms of actual sales, Delhi Metro was unable to sell in the difficult market period

Data source: Delhi Metro Rail Company: Annual reports (various years)

Source: Perspectives and ICLEI 2019

www.perspectives.cc | info@perspectives.cc

What could an Article 6 city approach look like?

- Definition of **city boundaries**
 - **Territorial definition vs. emission-cause related definition of city boundaries**
- Alignment of urban mitigation action under Article 6 with the **country's NDC**
 - **Define “city-sector” of the NDC?**
 - **Approach taken by the country will determine incentive for cities to participate in Article 6 activities**
- Appropriate and environmentally sound methodologies for the **quantification of mitigation outcomes**
 - **Credible baseline methodologies and additionality testing**
 - **Standardized approaches in urban contexts**

What could an Article 6 city approach look like?

- Appropriate rules for **Monitoring, Reporting and Verification**
 - **Apply principles of “transparency, accuracy, consistency, comparability and completeness”**
- Define and ensure aspects of social integrity
- **Additionality** and financial incentives
 - **Combine with other instruments (e.g. funds) to provide upfront investment**
 - **City networks as facilitators**

→ A **variety** of approaches are conceivable.

Conclusions and recommendations

- Involvement of cities and municipalities in international carbon markets has been **limited**, but there are success stories
 - **Transport**
 - **Waste management**
- Emerging carbon markets under Article 6, Paris Agreement, offer **new opportunities**
 - E.g. **sector-based** approaches with strongly standardized parameters;
 - **Upscaled crediting** alleviates barriers



Thank you!

Axel Michaelowa

michaelowa@perspectives.cc