Pilot projects for emission-free cities

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Urban Pathways

Urban Electric Mobility Initiative

• Take an integrated approach and focus on the climate change mitigation and the creation of synergies across key policy objectives

• Develop pilot projects and implementation concepts for key urban sectors to deliver on the New Urban Agenda, the SDGs and the Paris Agreement

• Supported by the International Climate Initiative and the European Union

www.uemi.net

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Cities and Emission

Transport is:

- responsible for 23% of CO2 emissions
- road transport (incl. freight) is responsible for around 74% of these emissions
- personal automobiles: more than 50%

Source: (Kodjak, 2015)
Air quality

• Fossil fuel vehicles emit carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM), non-methane hydrocarbons (HC), sulphur oxides and airborne toxins

• Particulate matter (PM) is responsible for premature deaths

• The vast majority of negative health impacts from fossil fueled vehicle activity occur in India, China, Brazil, Mexico, and the countries in the Asia-Pacific, Latin America, Middle East, and Africa.

Global premature deaths from light- and heavy-duty vehicle exhaust PM2.5 (ICCT, 2014)
Low carbon mobility solutions

Examples

BRT in Mexico

Trolley bus in Zürich

Bicycle sharing in Berlin

Car-sharing

Alternative fuel

Smart apps

Cycle-rickshaw in Agra

CNG Tuk-Tuk in Delhi
Implementation of low carbon solutions

- Linkages between policy and infrastructure
- Support for complementary measures
- Consideration of wider benefits
- Stakeholder dialogue
- Coalition building
- Identification of potential synergies
- Technical Cooperation
- Financial Cooperation
- Implementation of low carbon solutions
Linking policy objectives

• Linking and packaging policies is vital to generate synergies and co-benefits between measures, including linking GHG reduction goals with other sustainable development goals.

• An integrated policy approach that creates consensus and coalitions among diverse stakeholders and interests.
Political commitment

**Political Environment** – vary by country and change over time

**Stable politics** – long term investment decisions by industry and consumer

**Institutions** – coordination with key political actors
Urban Green Infrastructure Plans
Action Plan Climate Protection
- Goal: Save 40% CO$_2$ in 2020
- Projects: Renewable energies and energy efficiency

Masterplan Mobility 2030
- Mobility transition
- Improve NMT and public transportation
- E-mobility and charging stations

'Silicon Dortmund'
Academic and Economic Network
- Bring together more than 25 academic institutions

'Digital Dortmund'
Digitalization Strategy for a Smart city
- Digital Economy, Digital Education, Digital City Administration
Pilot Projects for emission-free cities
EcoDistricts – Quito, Ecuador

The approach
- Intersectoral integration
- Neighbourhood level
- Replication and scale-up possibilities
- Community participation

The EcoDistricts Design Contest
- Participatory process
- 60 neighbourhoods participated
  - Technical support team +
  - Neighbourhood representatives
- 4 winners
- Prizes:
  - Technical team: USD 5,000
  - Neighbourhood: USD 200,000

Results – San Enrique de Velasco
- 46 proposed measures
- **Energy:** Photovoltaic panels for public lighting
- **Mobility:** Enhanced NMT network and intermodality
- **Resources:** Green roofs and recycling
Pilot Projects for emission-free cities
Zones 30 in School Areas – Belo Horizonte, Brazil

The approach

- Safe journey to school
- Awareness raising
- Community participation
- Replication and scale-up possibilities
- Participatory design

Results – Cachoeirinha Neighbourhood

- Increased road safety and walkability
- Increased number of children and teenagers that walk and cycle to school
- Increased modal shift awareness in young generations
- Enhanced social cohesion in the neighbourhood
The approach
- Replace fossil-fueled Tuk-Tuks into E Tuk-Tuks (taxi)
- Plans to develop charging stations
- Business model – rent 20-40 E Tuk-Tuk to drivers

Result
- First/last mile services reducing car use
- Cost effective, faster and zero pollutant

Fact and figures
- E Tuk-Tuk manufacturers in the country
- Kochi municipality, Kochi Metro Rail limited (KMRL) and Kerala State Electricity Board (KSEB) are active
- National Policies favouring EVs
The approach
- Enhance public transport systems
- Policy Advocacy
- Awareness raising, Capacity building
- Business model to leverage the investment
- Standards for batteries and charging technology

Result
- Promote target to reduce pollution
- Reduce burden of fuel import
- Create employment

Fact and figures
- No fuel reserves
- Major part of electricity-hydropower
- Transport- cause of air pollution and health impacts
- National Policies favouring EVs
E-mobility solutions

Pilot project Concept in:

- **E-BRT**: Quito, Ecuador
- **Light Rail**:
- **E-Mini Buses**: Kathmandu, Nepal
- **E-Taxis**: Montevideo, Uruguay
- **E-Tuk-Tuks**: Kochi, India
- **E-Cargo Bikes**: Kathmandu, Nepal
- **E-Scooter sharing**: Hanoi, Vietnam
- **E-Bike Sharing**
The Approach
- Streamline waste management practice
- Awareness raising
- Jobs in green sector
- Waste to energy (e.g. Biogas)
- Collaboration with relevant private sector

Results
- GHG mitigation (planned: 34,103tCO₂ between 2019-2030)
  - Avoidance of methane release
  - Recovery of useful resource
- Replicate in 6 other cities

Fact and figures
- Capital city
- Illegal dumping of waste
- Waste segregation and disposal problem
Factsheets
Policy Papers
Thanks!

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