Asian Development Bank and Emerging Technologies for Green Transport

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Session 3: Emerging technologies to advance green transformation of transport sector in North and Central Asia
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Leveraging resources to transform a city

Grant resources
- ADB trust funds
- External trust funds

Prefeasibility / Feasibility
$0.5-1 million

Grants and loans
- Project Readiness Financing
- Small Expenditure Financing Facility

Detailed Design
$2-10 million

Grants and loans
- Concessional finance
- Special grant resources (e.g., Green Climate Fund)

Implementation
$30-500 million
1. **Public Transport**
   Основанный транспорт

2. **Non-Motorized Transport**
   Общественные места, прогулки и езда на велосипеде

3. **Traffic Management**
   Управление движением

4. **Parking Management**
   Управление парковкой

5. **Institutional Development**
   Институциональное развитие

ADB’s approach to integrated urban mobility
Комплексный подход к городскому транспорту
## Integrated Urban Transformation

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ADB E-Mobility Program

Collaboration between ADB and GCF

Armenia, Georgia, Indonesia, Kazakhstan, Kyrgyzstan, Nepal, Uzbekistan

GCF total funding:

- $170 million
  - $65 million grant
  - $105 million concessional loan
Eligible areas for GCF funding

1. Climate resilience (bioswales, sun canopies)  
   Grant

2. Infrastructure (busways, cycle ways)  
   Grant and loan

3. Electric bus fleet and charging  
   Loan

4. Technical assistance (planning and design)  
   Grant
1. Almaty EcoMobility Project

   i. E-bus fleet of 40 vehicles
   ii. Busway corridor construction
   iii. Depot upgrading for e-buses
   iv. Non-motorized transport
   v. Transit hub facility
Depot upgrades in Almaty to:

- Modernize facilities
- Add charging equipment.
e-Mobility and greenhouse gas emissions

Grid Factor of selected ADB developing member countries in 2019 (kgCO$_2$e/kWh)

The high carbon intensity of power generation from the Kazakhstan grid means that e-vehicles will increase greenhouse gas emissions without offsetting measures.
Offsetting emissions by providing solar photovoltaic panels over depot parking
Almaty: Urban space enhancements
Permeable tiles to aid drainage

Bioswales to be integrated with the NMT facilities
2. Bishkek Electric Bus Project

ADB’s investment to Bishkek, Kyrgyzstan

- Fleet of 120 electric buses
- Retrofitting depots for electric buses
- 3.5-km green corridor development
C. Dushanbe EcoMobility Project

Transforming van services with electric minibuses

5.8-meter minibus, Karsen (Turkey)
Electric three-wheelers for last-kilometer connectivity
Micromobility for the last kilometer

Peshawar: Pakistan’s first bicycle sharing system
Fiber optic deployment as a non-fare revenue source
Public transport corridor: Additional revenues

1. Mobile antenna space on street lighting
2. Fiber optic conduits along corridor
Transforming cities with sustainable mobility

Thank you