



Impact of cities on CC, Impact of CC on cities

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Presentation Outline:

- Dynamic of world population change
- Dynamic of the growth of cities.
- Emissions and GDP Ranking Comparison
- Main sectors of economy negatively affecting CC
- Impact of Cities on Climate Change
- Impact of Climate Change on Cities
- Challenges in Addressing the CC in cities
- Shock therapy in treating waste management in Azerbaijan



Dynamic of world population change and city development:

- In 1800 – less than 1 billion
- By 1900 – 1.65 billion
- by 1950 - around 2.5 billion
- By 2023 - 8 billion

Between 1975 and 2015, the urban population increased from 2.1 billion (or 51.5% of the world population) to 4.6 billion (58%)



Classification according to the GNI:

- Low-income economies are defined as those with a gross national income (GNI) per capita of USD 1 025;
- Lower-middle-income economies: between USD 1 026 and USD 3 995;
- Upper-middle-income economies: between USD 3 996 and USD 12 375;
- High-income economies: USD 12 376 or more

Independent city-states: Singapore, Monaco, Vatican as the modern independent city-states

Autonomous cities within the states: Hong Kong, Dubai



Countries with the biggest number of big cities:

- ✓ India has 465 cities with the population exceeding 300,000
- ✓ China has 436 such cities
- The United States has 164 cities

Between 1975 and 2015, the urban population increased from 2.1 billion (or 51.5% of the world population) to 4.6 billion (58%)



Emissions and GDP Ranking Comparison

1. China (28-30%)
2. US (15-17%) (Since 1990 GHG emissions have decreased by just over 2%)
3. India (6-7%)
4. Russia (4-5%)
5. Japan
6. Brazil
7. Indonesia
8. Germany
9. Canada
10. South Korea

1. US
2. China
3. Japan
4. Germany
5. India
6. United Kingdom
7. France
8. Brazil
9. Italy
10. Kanada/Russia



Main sectors of economy negatively affecting climate change

Negatively:

- ✓ Transportation – about 28%
- ✓ Electricity production (25%)
- ✓ Industry (23%) (mainly, by combusting fuel for energy)
- ✓ Commercial and Residential (13%), including waste management
- ✓ Agriculture (10%)

Positively: LULUCF, Oceans



Impact of cities on Climate Change

- ✓ GHG Emissions
- ✓ Excessive water consumption
- ✓ Excessive Energy consumption
- ✓ Excessive fuel consumption due to the traffic jam

- **Mitigation measures:**
 - ✓ Sustainable Urban Planning and Development
 - ✓ Energy Efficiency/Green Building practices
 - ✓ Responsible consumption
 - ✓ Using public transportation instead of private cars
 - ✓ Usage of bicycles and walks



Impact of Climate Change on Cities:

- Rising temperatures/Extreme weather events
- Sea level rise vs.
- Water scarcity
- Infrastructure Vulnerability (e.g. energy grids)
- Health Impacts (e.g. heat-related illnesses)
- Economic Consequences (e.g. disruption of economic activities)
- Social and Equity Issues (displacement, migration)
- Adaptation challenges (planning, construction)



Challenges in Addressing the CC in cities

- ✓ Economic and political
- ✓ Infrastructure and Technological barriers
- ✓ Public Awareness and Behavioural Changes

- **Importance of reliable MRV system**
 - ✓ Measurement/Ölçmə
 - ✓ Reporting/Hesabat
 - ✓ Verification/Doğrulama



Water resources of Azerbaijan

- ✓ 60-70% of water resources of Azerbaijan are formed outside of the country, in Turkey, Russia, Georgia and Armenia
- ✓ According to studies, water losses in Azerbaijan are close to 50%
- ✓ Almost no practice with water recycling (small exception: Baku Bus recycles the water used to wash their buses)
- ✓ Turkey, Armenia and Georgia have not joined the UN UN Convention on Transboundary Waters); (Russia joined in 1992, ratified in 1993)



Shock-therapy in treating the waste management:

- ✓ “Green City” in Azerbaijan”: Mingechevir seems to be the best candidate
 - located in the center of the country
 - size and population are very suitable for testing
 - experience could be spread across the country
- ✓ Cooperation of all stakeholders
- ✓ System of punishments and incentives
 - In all roads coming to the city put big billboards saying “You are entering the Green Zone”
- ✓ The need for success stories and lessons-learned