



**Taking the heat**  
**Making cities resilient to climate change**

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**February 20<sup>th</sup> , 2020**

**Valle de Antón, Republic of Panama**

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## Resilient cities

### Why adaptation in cities?

1. Cities generate roughly 80% of global GDP. cities will find themselves at the epicenter of climate change . Rapid urbanization in some developing countries will also likely sharpen the focus on cities.
2. Urban adaptation could drive one of the largest infrastructure build-outs in history.
  - a) coastal protections,
  - b) climate-resilient construction,
  - c) more robust infrastructure,
  - d) upgraded water and waste-management systems, energy resilience and
  - e) stronger communications and transportation systems

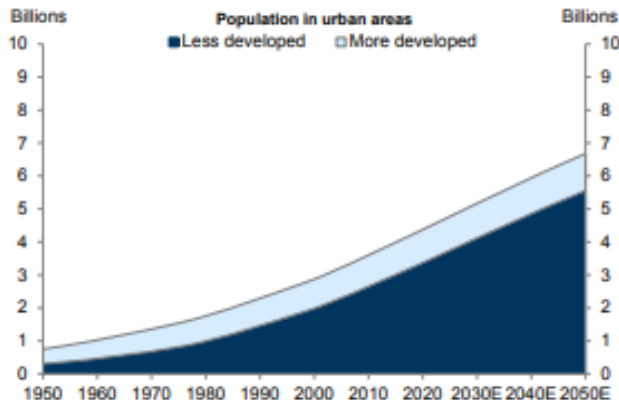


## Resilient cities

### Why adaptation in cities?

**Exhibit 5: Most of the world's urban population is in less-developed regions**

Number of people in urban areas, 1950-2050E

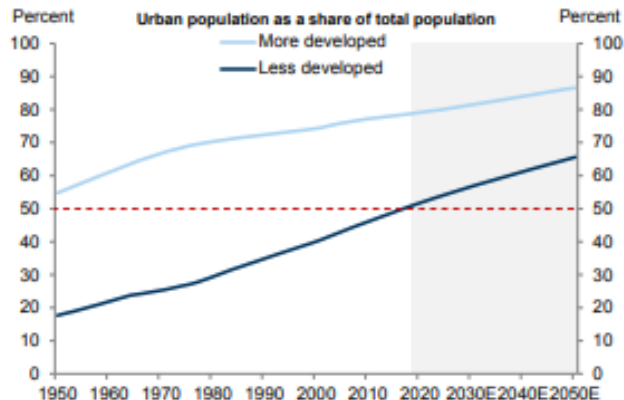


Note: More-developed regions include Europe, Northern America, Australia, New Zealand and Japan. Less-developed regions include Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

Source: United Nations, Goldman Sachs Global Investment Research

**Exhibit 6: While the share of people in cities is higher in more-developed regions, less-developed countries are narrowing the gap**

Share of population in urban areas, 1950-2050E



Note: More-developed regions include Europe, Northern America, Australia, New Zealand and Japan. Less-developed regions include Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.

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## Resilient cities

### Innovative sources of funding

1. tax revenues
2. central-government funds,
3. public-private partnerships,
4. institutional investors,
5. insurance and,
6. in developing economies, international financial institutions

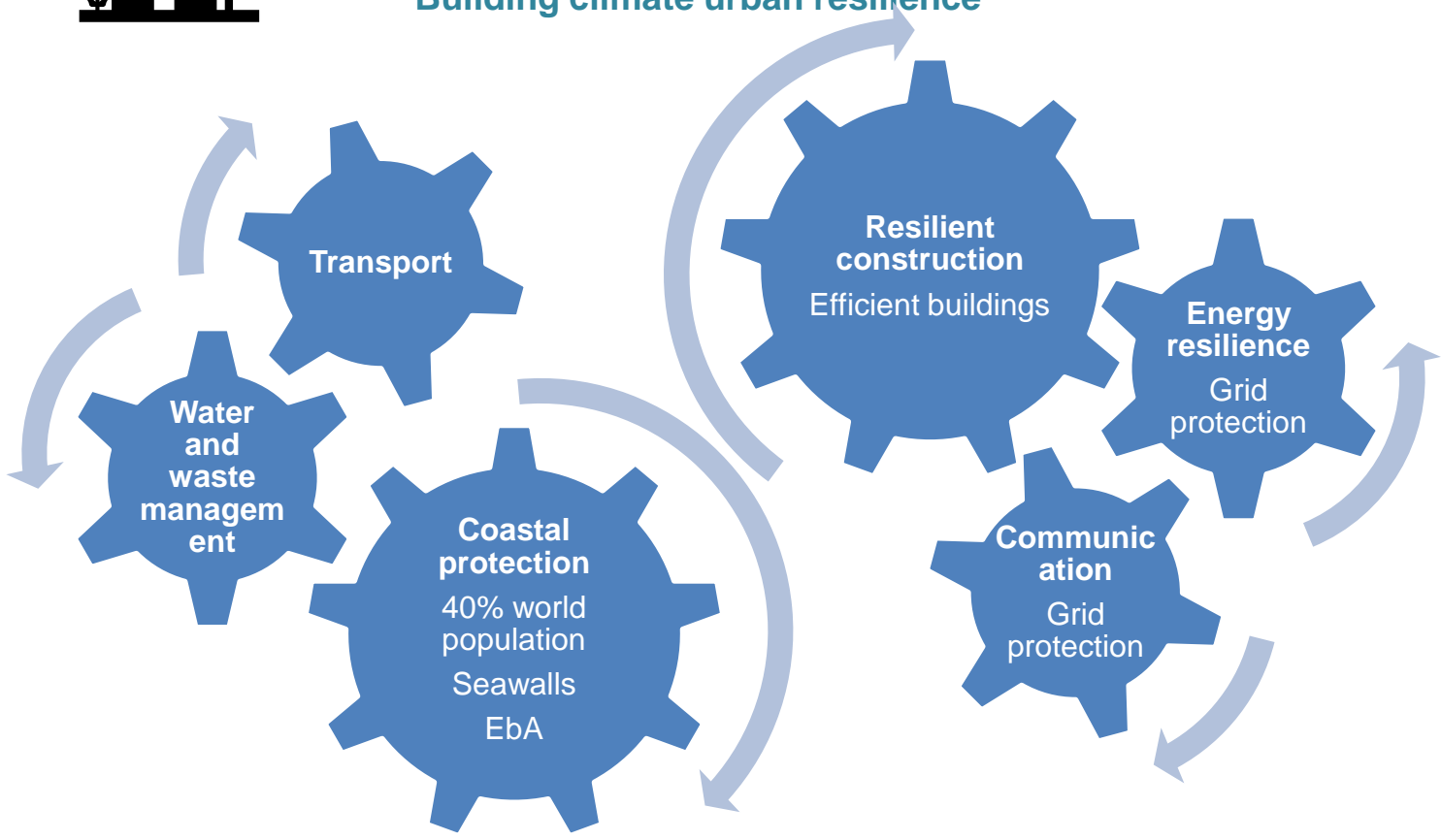
### Adaptation may raise questions of fairness

- Strengthen flood defenses in their business districts, or should they upgrade public housing in flood-prone areas?
- Not all cities are created equal. New migration patterns among cities



## Resilient cities

### Building climate urban resilience





## Resilient cities

### Financial mechanisms

