City Actions to Achieve Global Climate and Sustainable Development Objectives

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WRI ROSS CENTER FOR SUSTAINABLE CITIES

Supporting partners to **create local solutions** by adapting, learning, course correcting

Using **evidence and measurement** to shape action

Through **systematic learning,** building consensus **to shift local and national policies** and the global agenda

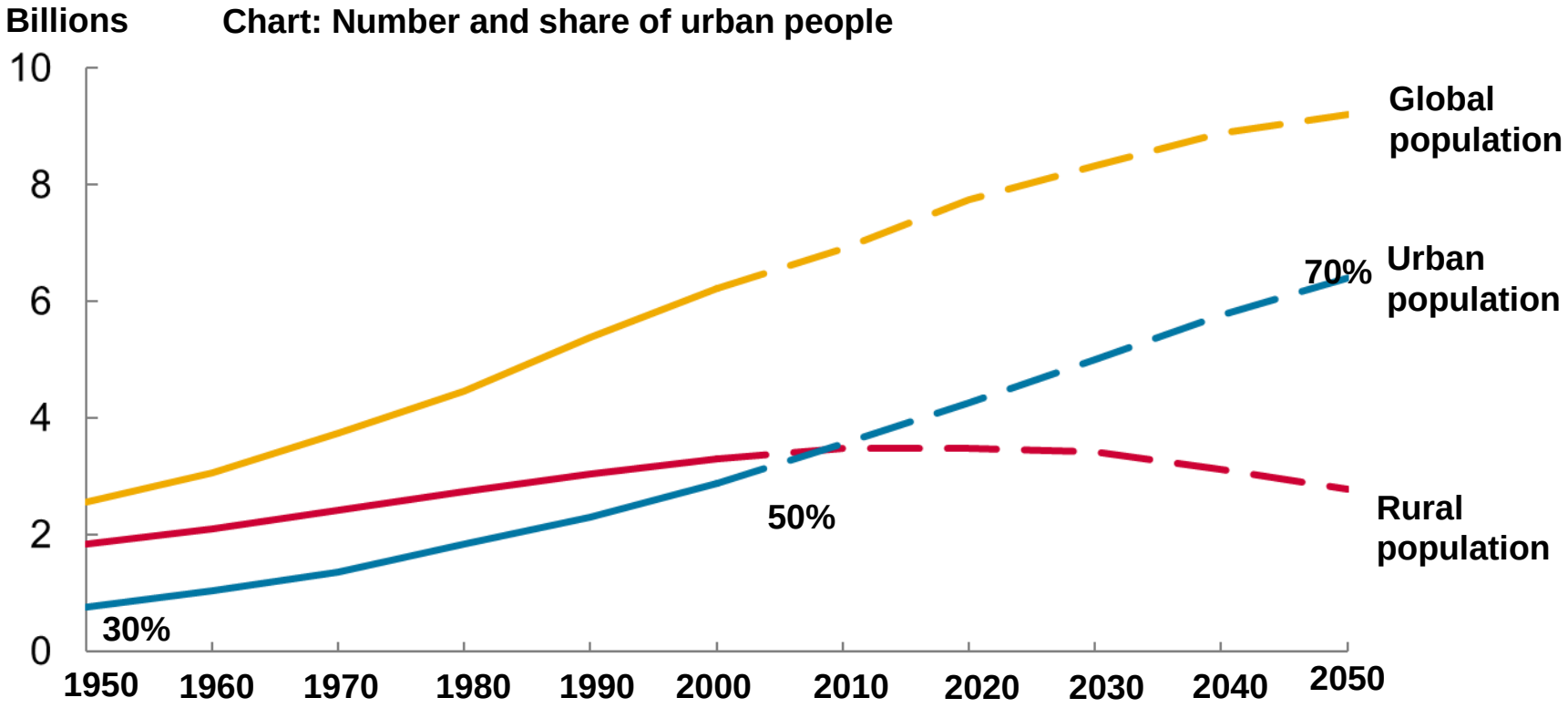
WORLD SBE 2017 WORLD Sustainable Built Environment Conference

Organisers: CONSTRUCTION INDUSTRY COUNCIL 建造業議會 HKGBC 香港綠色建築議會

International Co-owners: SBE SERIES iiSBE UNEP Sustainable Buildings and Climate Initiative FIDIC Global Alliance for Buildings and Construction

Cities Hold the Key:

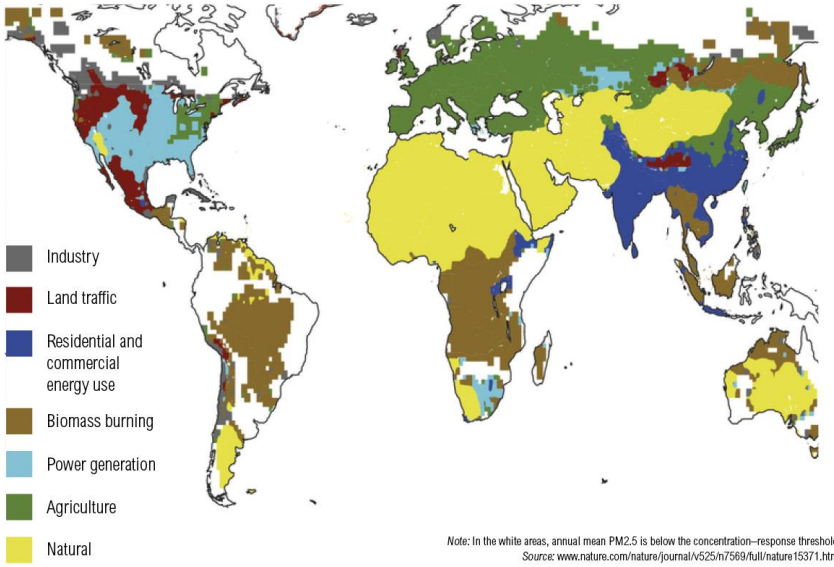
Over 50% of the global population live in cities and urban areas, rising to 70-80% of population by 2050.



Source: New Climate Economy

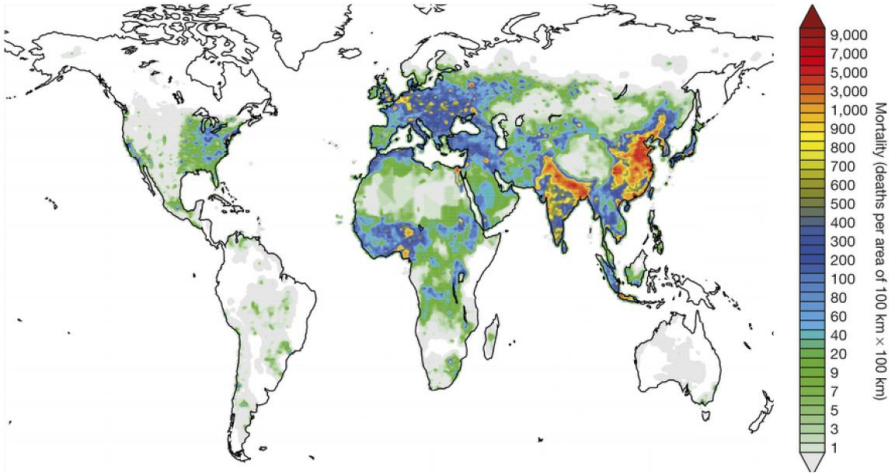
INEFFICIENT BUILDINGS ARE MAJOR CONTRIBUTORS TO ILLNESS AND DEATH RELATED TO AIR POLLUTION

Sources of Air Pollution-Related Deaths in 2010



Note: In the white areas, annual mean PM2.5 is below the concentration–response threshold.
Source: www.nature.com/nature/journal/v525/n7569/full/nature15371.html

Mortality Linked to Outdoor Air Pollution in 2010



Note: Units of mortality, deaths per area of 100 km × 100 km (colour coded). In the white areas, annual mean PM2.5 and O3 are below the concentration–response thresholds where no excess mortality is expected.
Source: www.nature.com/nature/journal/v525/n7569/full/nature15371.html

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Shaping the City Agenda

1. Compact urban growth

Managed expansion, mixed-use urban form, good quality urban design

2. Connected infrastructure

Smarter transport systems, utilities and grids, and buildings

3. Coordinated governance

Integrated land use & transport authorities, integrated planning, PPPs

The New Climate Economy:

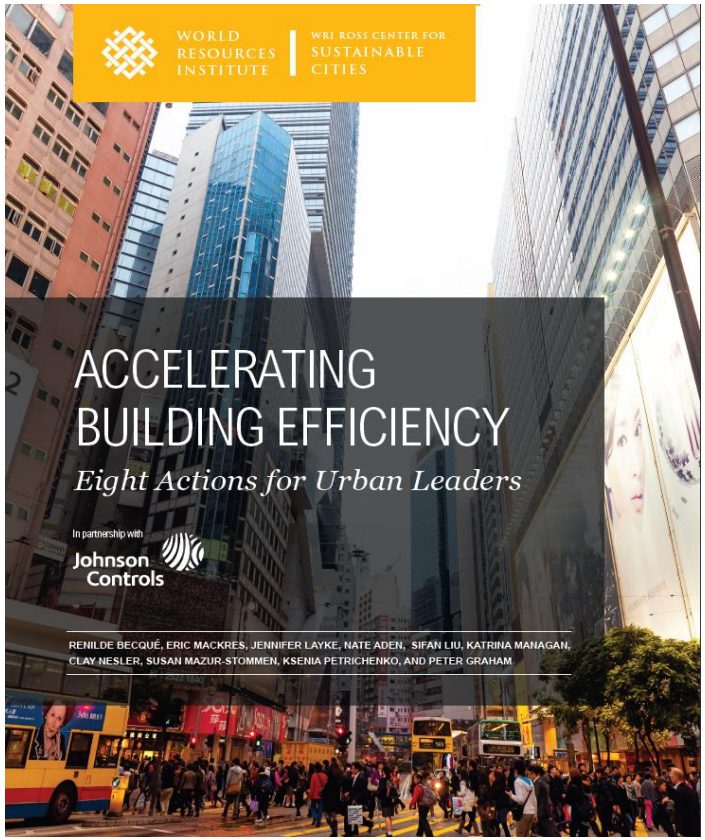
500 cities will account for 60% of GDP and also half of energy related emissions by 2030

$3 trillion in savings from global infrastructure spending to 2030 from more compact, connected urban development

WRI's Building Efficiency Initiative

Our vision:
Buildings are solutions for the cities of the future. Productive, actively managed buildings can integrate multiple systems (energy, water, waste, transportation) and improve the lives of urban residents.
Four work areas:

1. City-scale **public-private collaboration** for efficiency policies and projects;
2. Scalable **business and finance models** for sustainable approaches to urban services;
3. Improved **building performance information** and transparency;
4. High-performance and **net zero buildings** and urban energy systems.



Barriers to Project Implementation: *institutional,* not technical or Economic

Awareness and Incentives

Limited awareness

- Low priority attached to energy issues
- Lack of awareness of EE potential
- Inadequate information on energy use and costs

Incentive incompatibility

- Split incentives (between ownership and financing)
- Energy prices below the costs of supply
- Failure to price negative externalities of energy use
- Uncertain regulatory framework

Implementation Capacity

Low levels of capacity

- Limited municipality technical capacity
- Limited financier technical capacity
- Lack of familiarity with EE technologies

Nature of municipal projects

- Restrictive public procurement rules
- Need to work across multiple municipalities

Access to Financing

Restrictions on municipal funding

- Inadequate revenue base
- Limited revenue-raising powers
- Limited borrowing powers
- Restriction on use of funds

Barriers to commercial financing

- Requirements for collateral and recourse
- Assessing creditworthiness
- Absence of 'hard' cash flows
- High transaction costs

Source: ESMAP. 2014. *Financing Municipal Energy Efficiency Projects*.

Different Urban Leaders influence action across the Building Lifecycle

NEW BUILDINGS			EXISTING BUILDINGS				
Land Use/ Planning	Design	Construction	Sale or Lease	Tenant Build-Out	Operations & Maintenance	Retrofit	Demolition & Deconstruction
Local governments Developers and self-help builders	Design & construction professionals National and provincial governments Local governments	Design & construction professionals Building investors Suppliers & manufacturers	Buildings owners and managers Developers and self-help builders Building occupants	Buildings owners and managers Building occupants Design & construction professionals	Buildings owners and managers Energy utilities Building occupants	Buildings owners and managers Building investors Building occupants Design & construction professionals	Design & construction professionals Buildings owners and managers

Source: World Resources Institute

The Building Efficiency Accelerator

- 35 global groups
- 28 Cities

*City selected for "Deep Dive" engagement

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Deep Dive Case Study: Mexico City

Building Efficiency Accelerator

September 2014 commitment from Mexico City government to:

- Implement a building energy code
- Retrofit public buildings

Launch workshop for common vision: March 2015

- 100 multi-stakeholder participants – including city government, federal government, businesses, finance, civil society and consulting

Action plan : 4 workgroups chaired by Mexico City staff and an SEforALL partner, project managed by WRI

- Technical workshop on building retrofits and finance
- Recommendations on action by government and stakeholders delivered in October; Actions announced at COP 21 in December
- Program implementation phase 1: 4 Audits, new construction code
- June 2016: New energy code adopted; public building audits approved
- December 2016: Funding secured for retrofits
- March 2017: announcement 30% of public buildings audited for retrofit; establishment of new city energy office.

Tanya Muller, Secretary of the Environment, discussing Mexico City's leadership actions

Mayor Mancera at COP21 Buildings Day

CDMX CIUDAD DE MÉXICO 190años

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Thank you