Sustainable Cities – Towards a Low-carbon & Resilient Future

### Addressing Urban Greenhouse Gas Emissions
Today, approximately 75% of global energy-related greenhouse gas emissions like carbon dioxide (CO2) or methane come from cities. It is estimated that 80% of the built environment, which is required to accommodate the earth’s urban population by 2050, is yet to be built.

Developing and emerging countries alone have a need of infrastructure yet to be built that will consume some three-quarters of the global greenhouse gas emissions “budget” that we have to keep global warming within 1.5 degrees as recommended by the Paris Agreement.

### Balancing Urban Growth and Land Consumption
Today, cities occupy approximately 2% of the earth’s surface, while accommodating more than half of the world population. By 2050, this number will increase to 6% due to an addition of around 1.2 billion urban dwellers by then. In the same time span, urban land cover will nearly triple, increasing the build-up area by 1.2 million km² ten times the surface of France, compared to 2000.

- **Today**: 45 million urban dwellers
- **2050**: 88 million urban dwellers

### Finding Sustainable Solutions for Urban Energy Demand
Today, 75% of the globally produced energy is consumed in cities. However, as density increases in urban areas, per capita energy demand decreases – pointing out the great potential for energy savings through urbanisation.

In 2013, renewable energy sources supplied about 20% of all building- and transport-related energy in cities. Cities are therefore driving actors in promoting innovative solutions and transforming pathways.

- **Today**: 75%
- **2050**: 20%

### Harvesting the Potentials of Waste Management
The annual amount of municipal solid waste from human settlements has increased tenfold in the last century, amounting to approximately 1.5 billion tonnes in 2012. This amount is expected to almost double to 2.2 billion tonnes by 2050.

- **1990**: 110 million t
- **2025**: 1.3 billion t
- **2050**: 2.2 billion t

### Regulating Micro-climate through Urban Green
Urban green spaces can cool the air in their direct surrounding by 2 to 8 °Celsius. This cooling effect can avoid heat-related premature human deaths.

- **75%**

### Transforming Urban Mobility
The transport sector accounted for 28% of global energy-related CO2 emissions in 2013. Density populated and highly connected urban agglomerations inherit the potential to reduce this carbon footprint. It includes three revolutions in vehicle technology – namely automation, electrification, and ride sharing – CO2 emissions could be reduced by 80% by 2050.

- **Today**: 80%
- **2050**: 

### References:
You can find a comprehensive list of references in all information of the graphic under: http://www.giz.de/en/services/bibliography/poster-series-urbanisation