



Smart Energy City Action Forum

Smart Energy City 2050 Net Zero Carbon City

Jina Park

**Program Director
Korea Agency for Infrastructure Technology Advancement (KAIA)**

**Open Standard
Interoperable
Smart City
International
Standardization
for Smart City
Interoperable
Reference
Architecture**



An isometric illustration of a smart energy city. The scene includes solar panels, wind turbines, smart buildings, and various smart infrastructure elements like a person using a tablet, a smartphone with a shield icon, a potted plant, and a bar chart. The background is white with teal and yellow accents. A large teal banner with white text is centered over the image.

Smart Energy City

2050 Net Zero Carbon City

Net Zero Carbon City

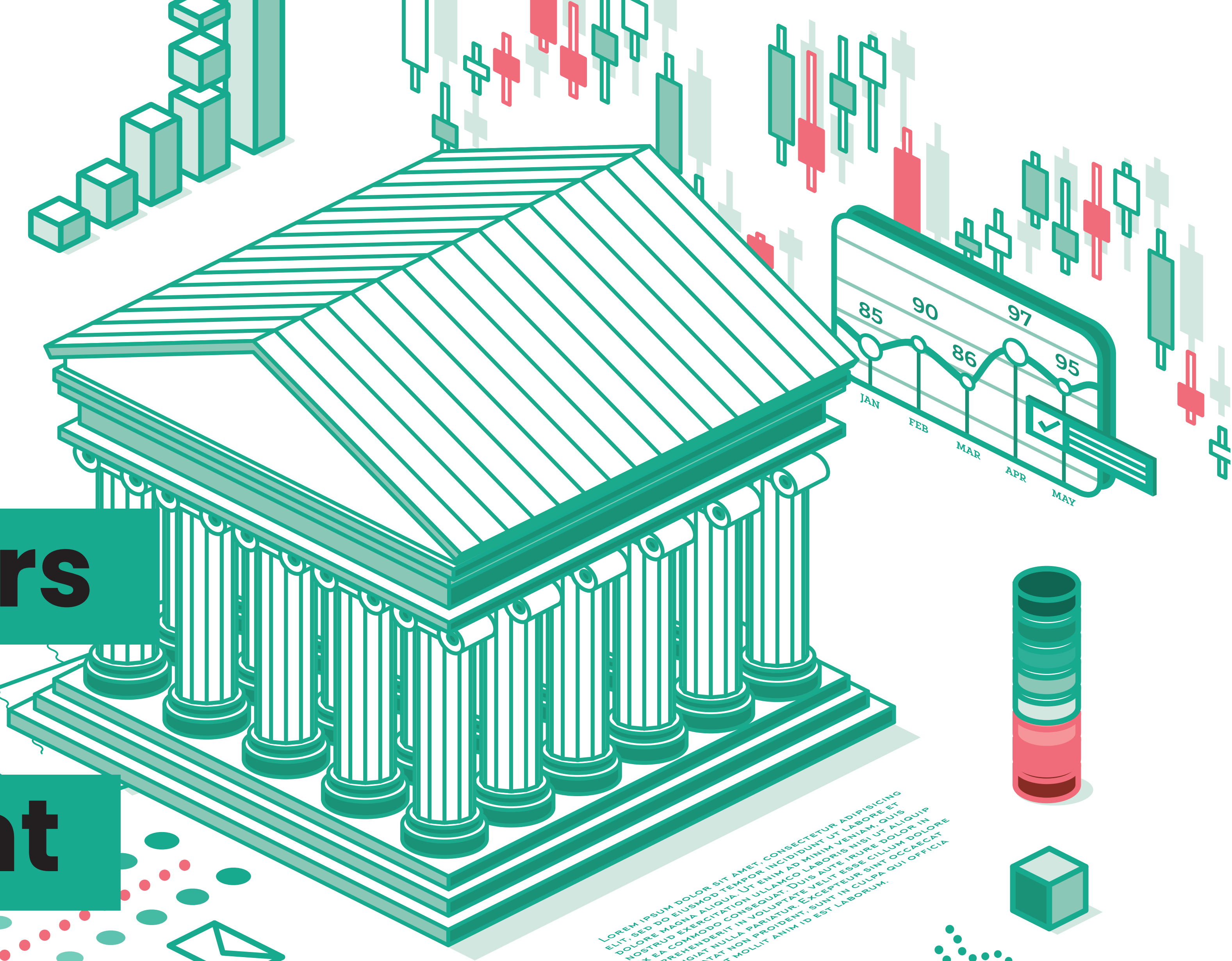
Actions for stakeholders



Net Zero Carbon City KPIs and Target Values



Bringing Together Stakeholders Across Government



LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING
ELIT, SED DO EIUSMOD TEMPOR INCIDIDUNT UT LABORE ET
DOLORE MAGNA ALIQUA. UT ENIM AD MINIM VENIAM, QUIS
NOSTRUD EXERCITATION ULLAMCO LABORIS NISI UT ALIQUIP
EX EA COMMODE CONSEQUAT. QUIS ALITE IRURE DOLOR IN
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DESERUNT MOLLIT ANIM ID EST LABORUM.



Smart Energy City

Integrated Approach in Cities

Net Zero Carbon City

Actions for stakeholders





Net Zero Carbon City

Integrated energy systems



Ultra-efficient Buildings

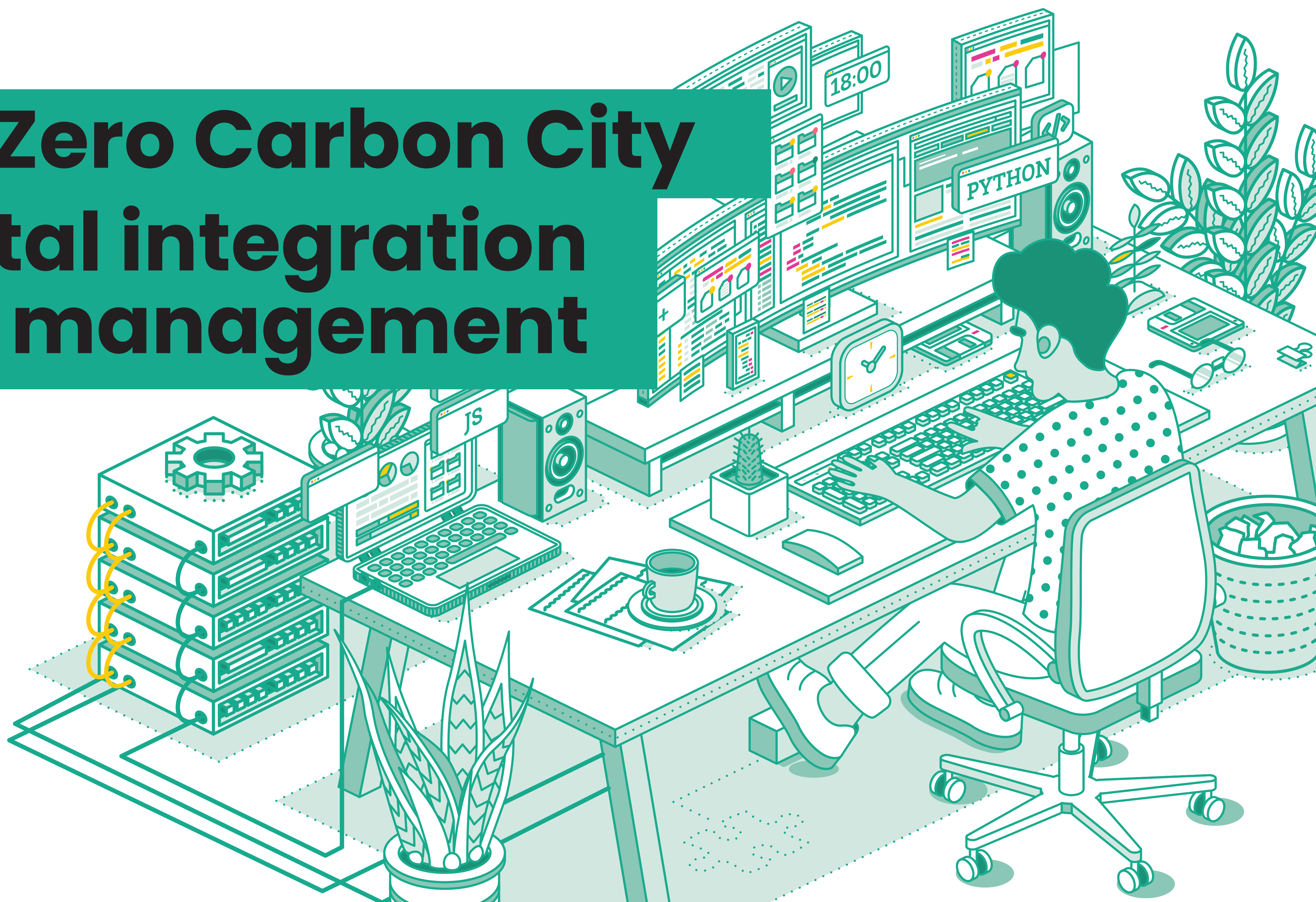
Electrification

Decarbonization

Smart Energy Infrastructure

Net Zero Carbon City

Digital integration and management



An isometric illustration in teal and white tones depicting a smart city data hub. It features multiple computer monitors displaying various data visualizations like pie charts and bar graphs. In the center, there are 3D blocks labeled 'HTML', 'XML', and 'PHP' with a gear and an upward-pointing arrow above them. A large, curved arrow points from these blocks towards a larger monitor on the right. A laptop is visible on the left, and a keyboard is in the foreground. The overall theme is digital integration and data management.

Smart City Data Hub

Integrating technologies

Enabling policies

Net Zero Carbon City

Connected Intelligence



An isometric illustration in a teal and light green color palette. The scene depicts a modern smart energy infrastructure. In the foreground, a white electric bus with a yellow lightning bolt on its side is shown from a low angle. To its right are two stylized trees with circular foliage. In the background, there are solar panels, wind turbines, and a building with a green roof. A large, semi-transparent teal banner with white text is positioned across the middle of the image. The bottom right corner features a computer monitor and keyboard, and a small plant. The overall style is clean and futuristic.

E-mobility

Smart energy infrastructure

Creating energy-efficient buildings and districts

ISO 52000-1, Energy performance of buildings — Overarching EPB assessment — Part 1: General framework and procedures

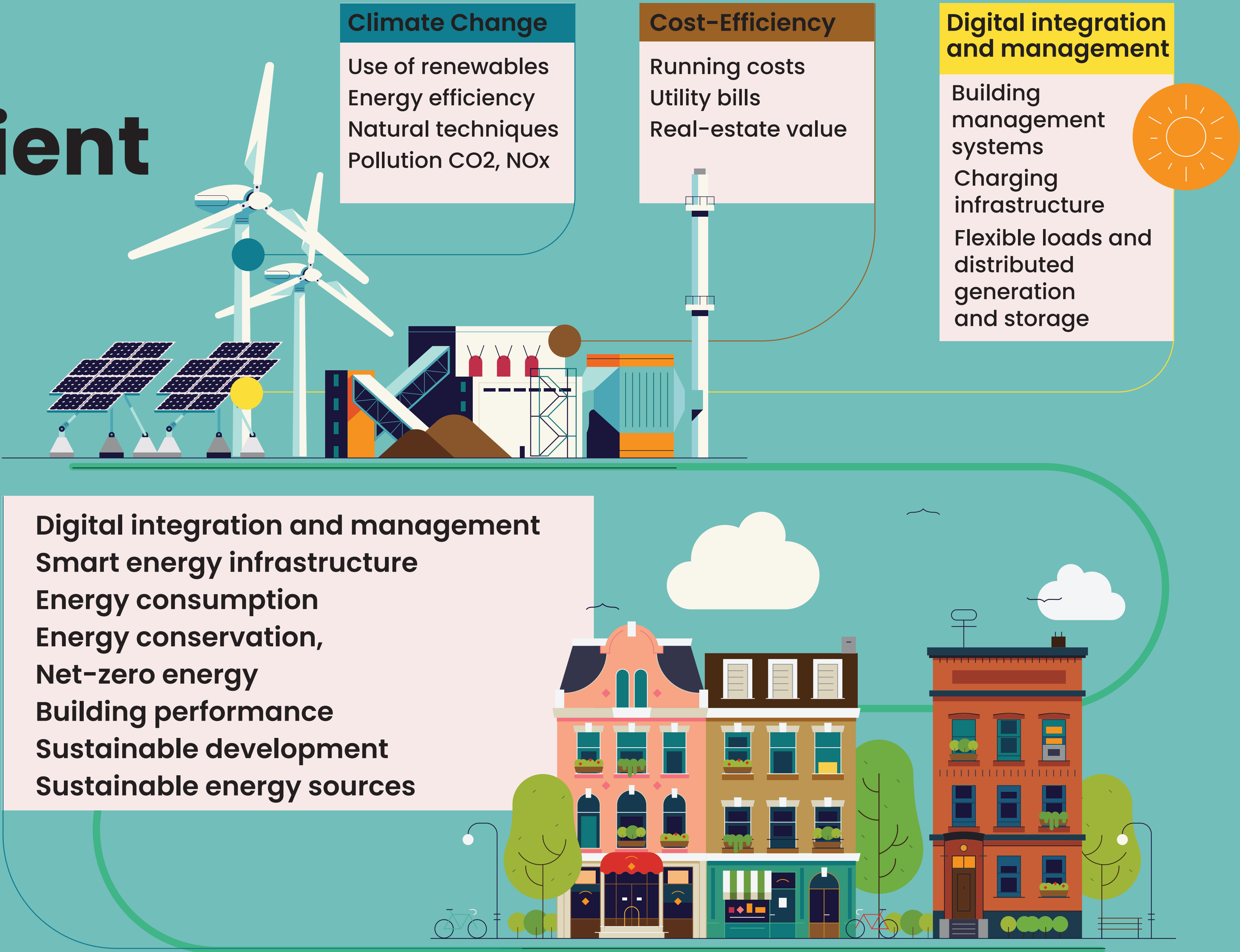
ISO/TR 52000-2, Energy performance of buildings — Overarching EPB assessment — Part 2: Explanation and justification of ISO 52000-1

ISO 52120-1, Energy performance of buildings — Contribution of building automation and controls and building management — Part 1: Modules M10-4,5,6,7,8,9,103

ISO/TR 52120-2, Energy performance of buildings — Contribution of building automation, controls and building management — Part 2: Explanation and justification of ISO 52120-1

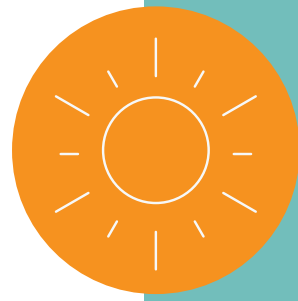
ISO 52127-1:2021, Energy performance of buildings — Building management system — Part 1: Module M10-12

ISO/TR 52127-2:2021, Energy performance of buildings — Building automation, controls and building management — Part 2: Explanation and justification of ISO 52127-1



City-planning Scenarios

Big data
Digital twins
Smart city
Sustainable
Development Goals



Climate- adaptation goals

Decoding
sustainable
development KPIs

Digital Finance

Full spectrum of
impact
Unlocking the tools
and techniques



Building better cities for a net-zero carbon future

NZC Mission Platform

EU Mission: Climate-Neutral and Smart Cities

Living-in.EU

New European Bauhaus (NEB) initiative

National Energy and Climate Plans.

EU Cohesion Policy.

Urban Agenda for the EU.

EU Pact for Skills

Recovery and Resilience facility and plans

REPowerEU Plan

EU Mission: Climate-Neutral and Smart Cities: Implementation Plan

Reference: Net Zero Cities, <https://netzerocities.app/PilotGuideBook>

Designing Resilient and Net-Zero Cities of Tomorrow

Net-Zero Cities by 2030: Smart City Lab | Harvard Graduate School of Design Executive Education

Decarbonization of city infrastructure
Digitalization as a means to accelerate
development of net-zero and resilient
cities

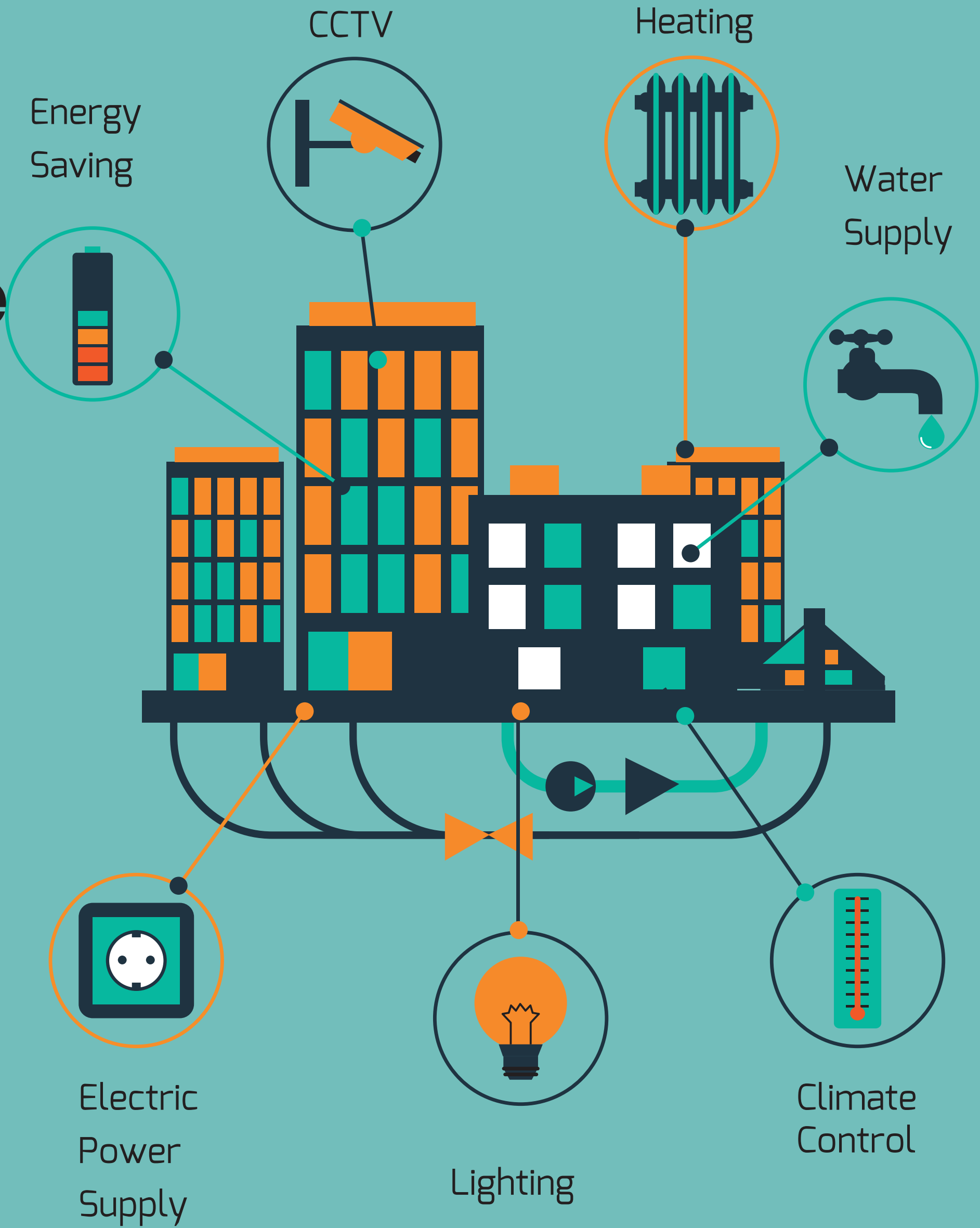
The need to map city climate risks and
how cities in fast urbanizing, low- and
middle-income countries can build
urban climate resilience



Smart Energy Infrastructure

power generation, distributed energy sources, wires, heating and cooling networks, smart meters, smart charging and everything that encompasses the “grid” – is what makes cities run

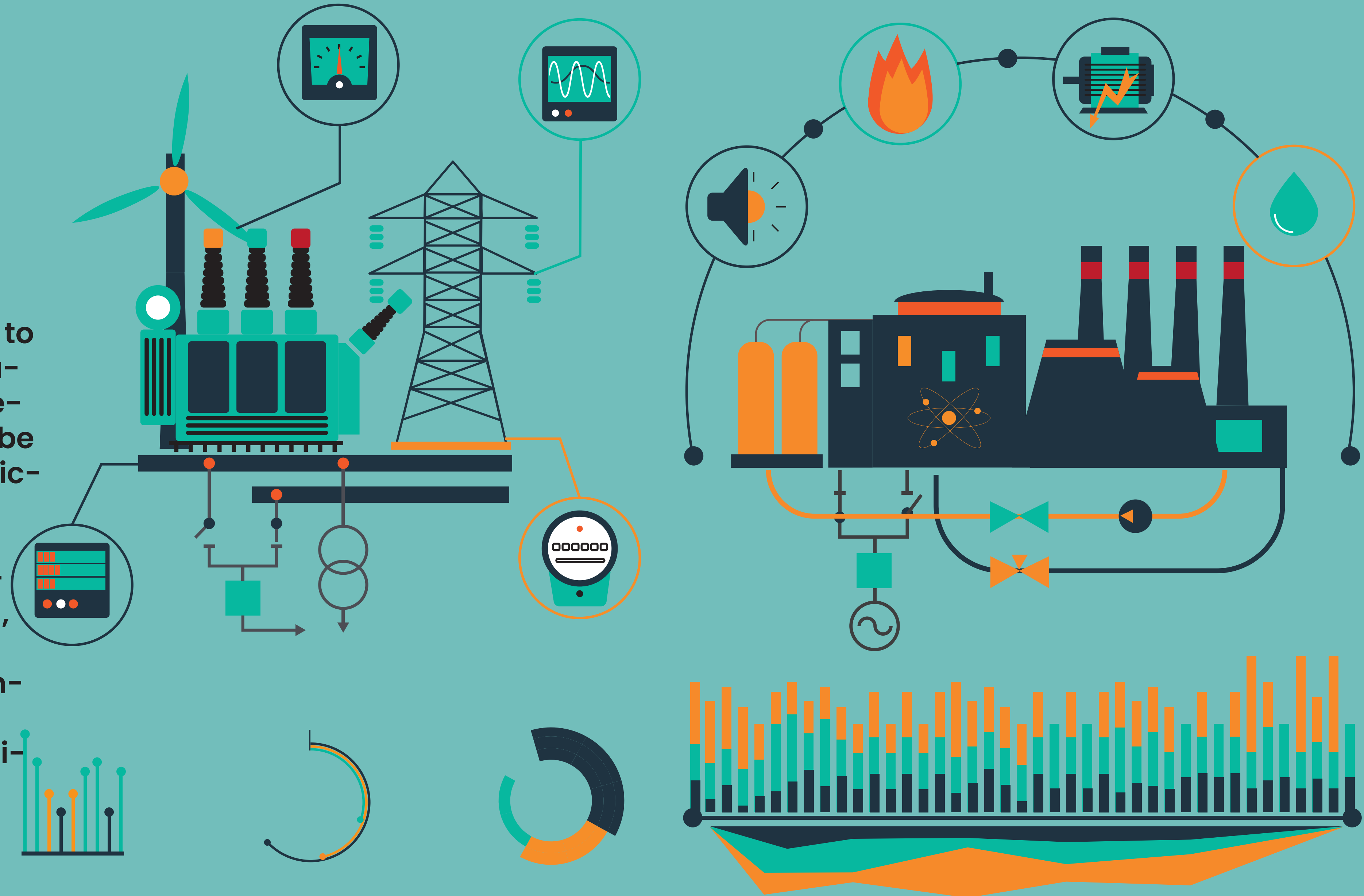
Reference: Net Zero Carbon Cities: An Integrated Approach, World Economic Forum



Future Integrated Energy System

Advanced metering infrastructure will be required throughout public services to facilitate demand optimization and efficiency improvements. Data platforms will be required to integrate electricity, gas and water meter readings, combined with street lighting, waste management and parking data, among other internet of things (IoT) applications. Interoperability throughout technologies and communication protocols will be essential.

Reference: Net Zero Carbon Cities:
An Integrated Approach, World
Economic Forum

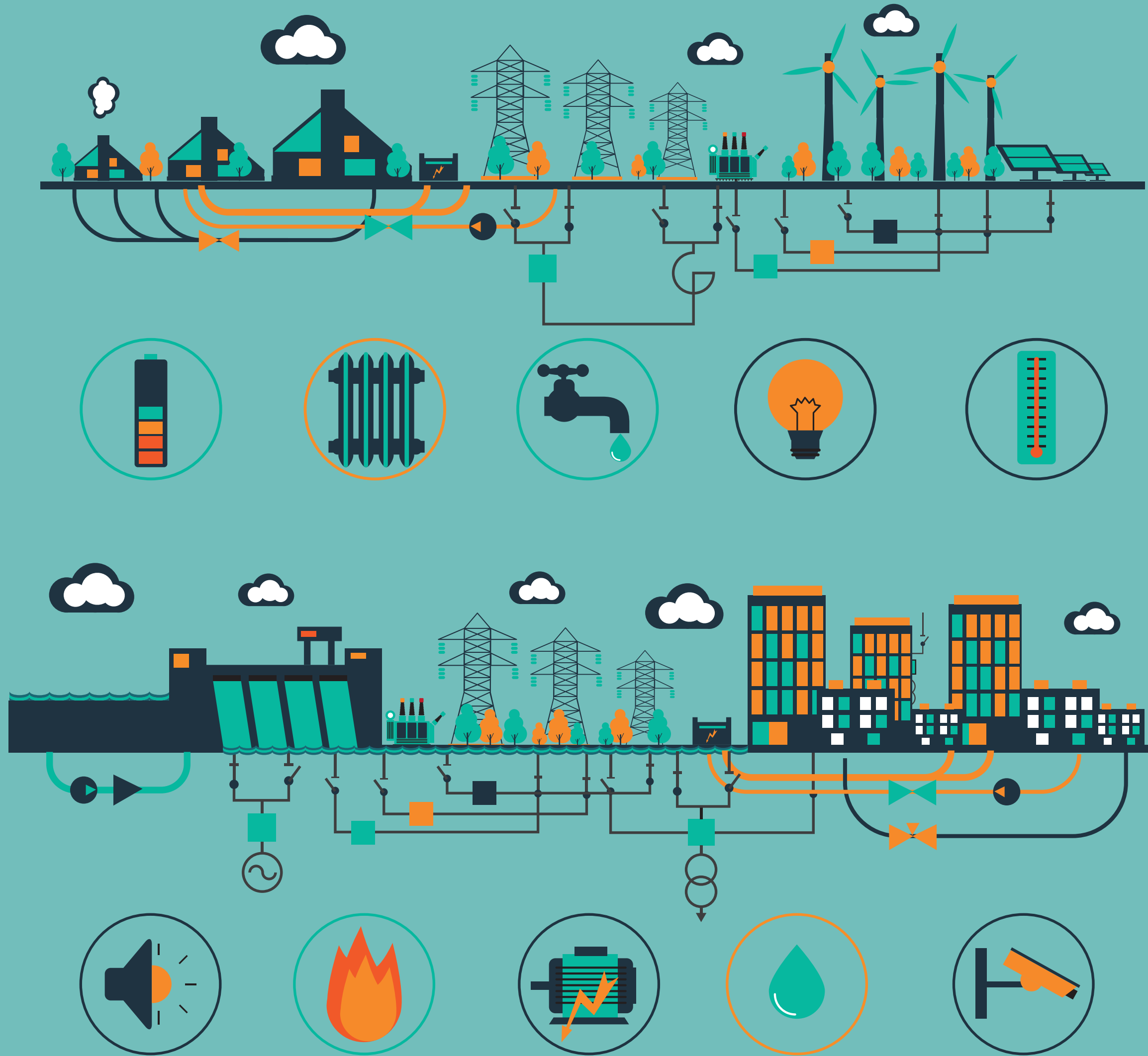
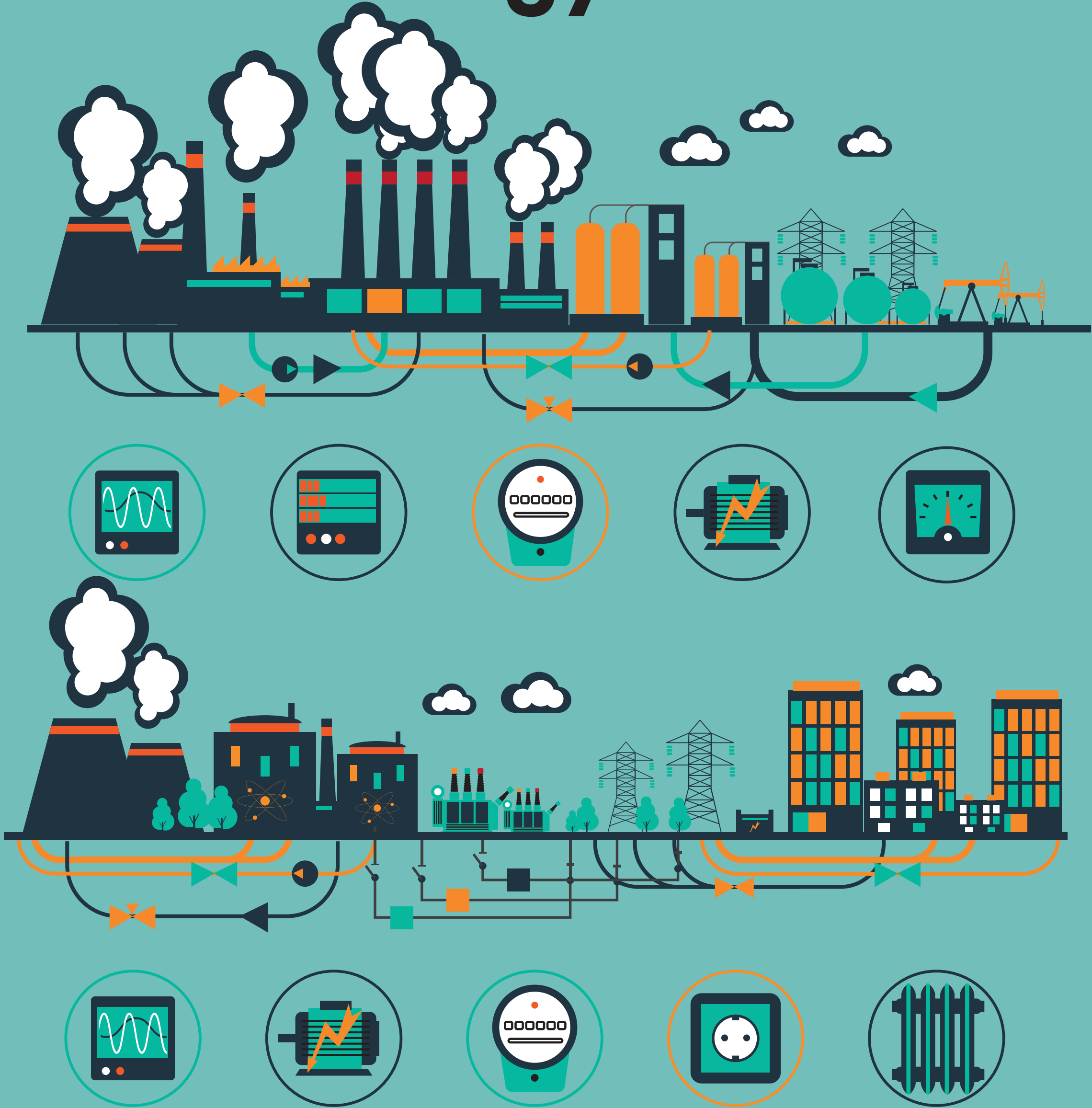


Smart City Data Hub

Smart Energy Infrastructure

Digitalization and stakeholder collaboration clearly play a fundamental role in the modernization of existing and the development of new energy infrastructure, as well as the scaling up and deployment of new technologies.

Reference: Net Zero Carbon Cities: An Integrated Approach, World Economic Forum





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