An isometric illustration of a smart city. In the foreground, there are several solar panels mounted on a grid. A person is walking on a path, holding a laptop. In the background, there are buildings, trees, and a power substation with a lightning bolt symbol. Yellow lines represent energy or data flow across the scene.

Smart Energy City Action Forum

Smart Energy City

2050 Net Zero Carbon City

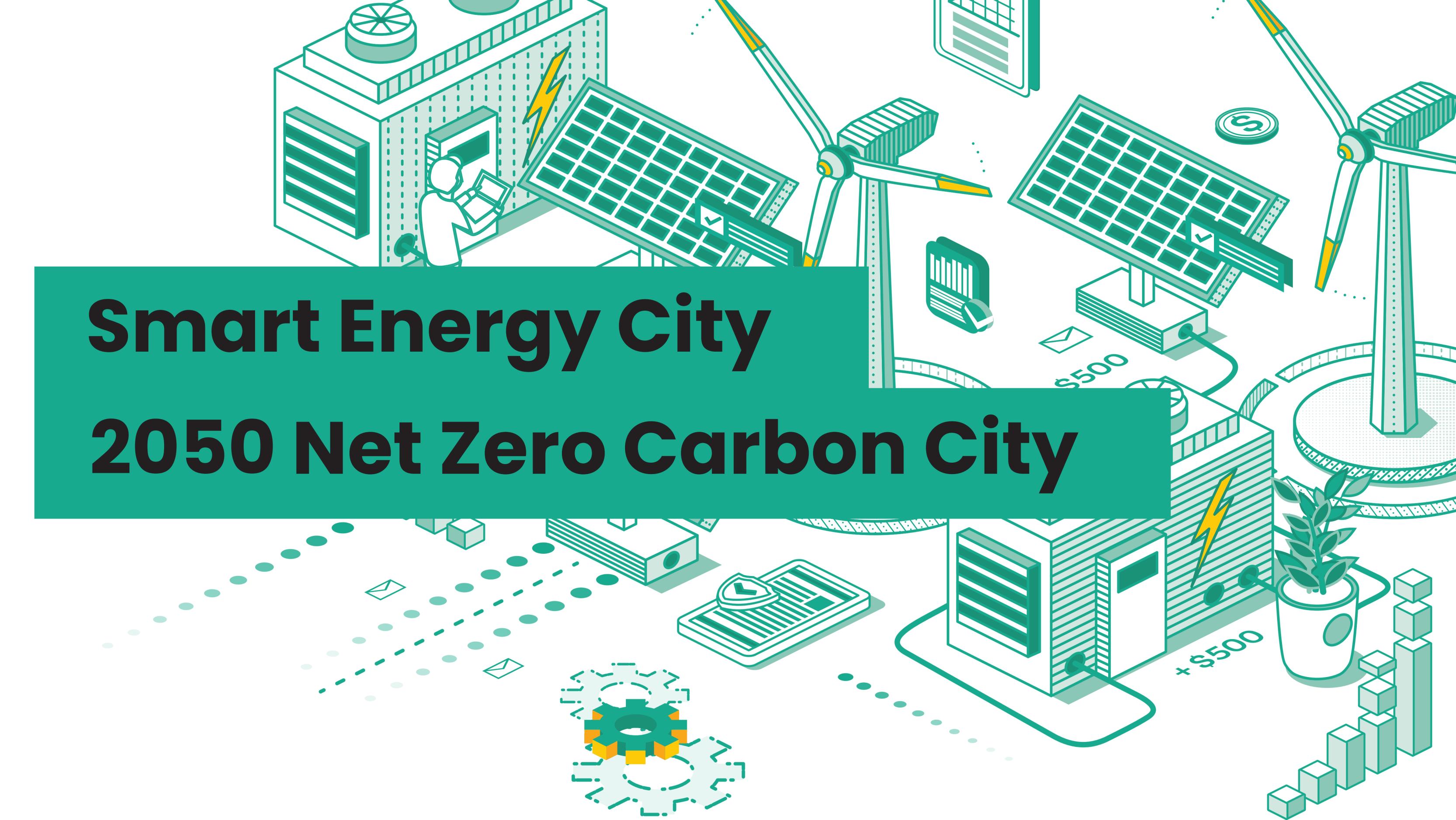
Jina Park

Program Director

Korea Agency for Infrastructure Technology Advancement (KAIA)

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





Smart Energy City
2050 Net Zero Carbon City

The illustration features a central teal banner with the text 'Smart Energy City' and '2050 Net Zero Carbon City'. The background is a detailed isometric scene with various elements: a person in a white suit looking at a tablet in front of a building; solar panels on a building and on a stand; two wind turbines; a laptop with a shield icon; a bar chart with five bars of increasing height; a potted plant; a calculator; a smartphone; a coin; a stack of money; a lightning bolt; and various data points and lines. The color palette is primarily teal, white, and yellow.

Net Zero Carbon City

Actions for stakeholders



LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISICING
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 COMMENDERIT IN VOLUPTATE VELIT ESSE CILLUM DOLORE
EU FUGIAT NULLA PARIATUR, EXCEPTEUR SINT OCCAECAT
CUPIDATAT NON PROIDENT, SUNT IN CULPA QUI OFFICIA
DESERUNT MOLLIT ANIM ID EST LABORUM.

Net Zero Carbon City KPIs and Target Values

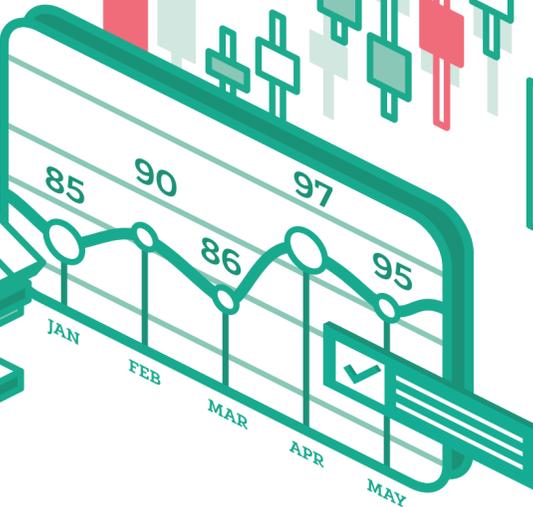
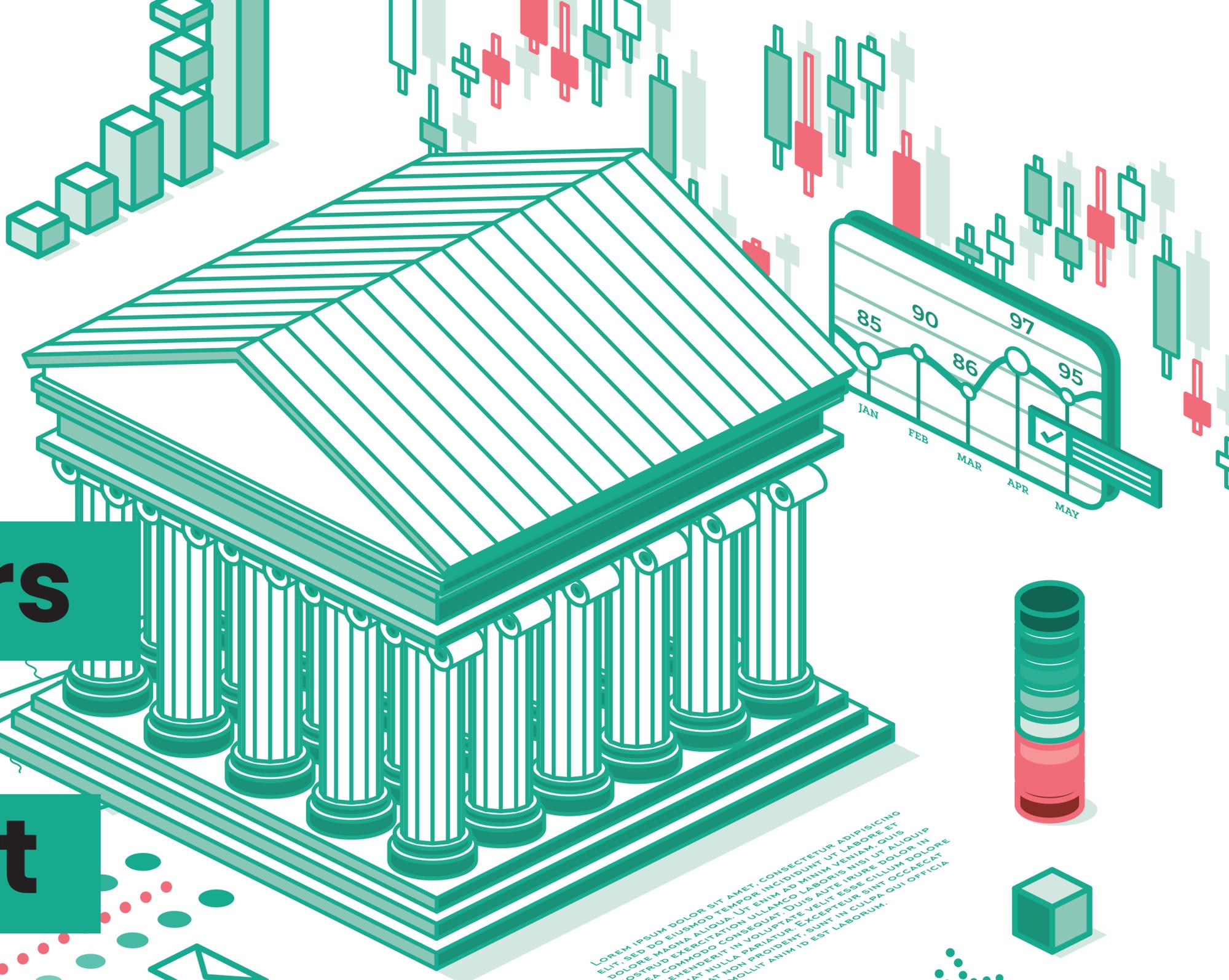


ADIPISICING
LABORE ET
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LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISICING
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GOOD 99

Bringing Together Stakeholders Across Government



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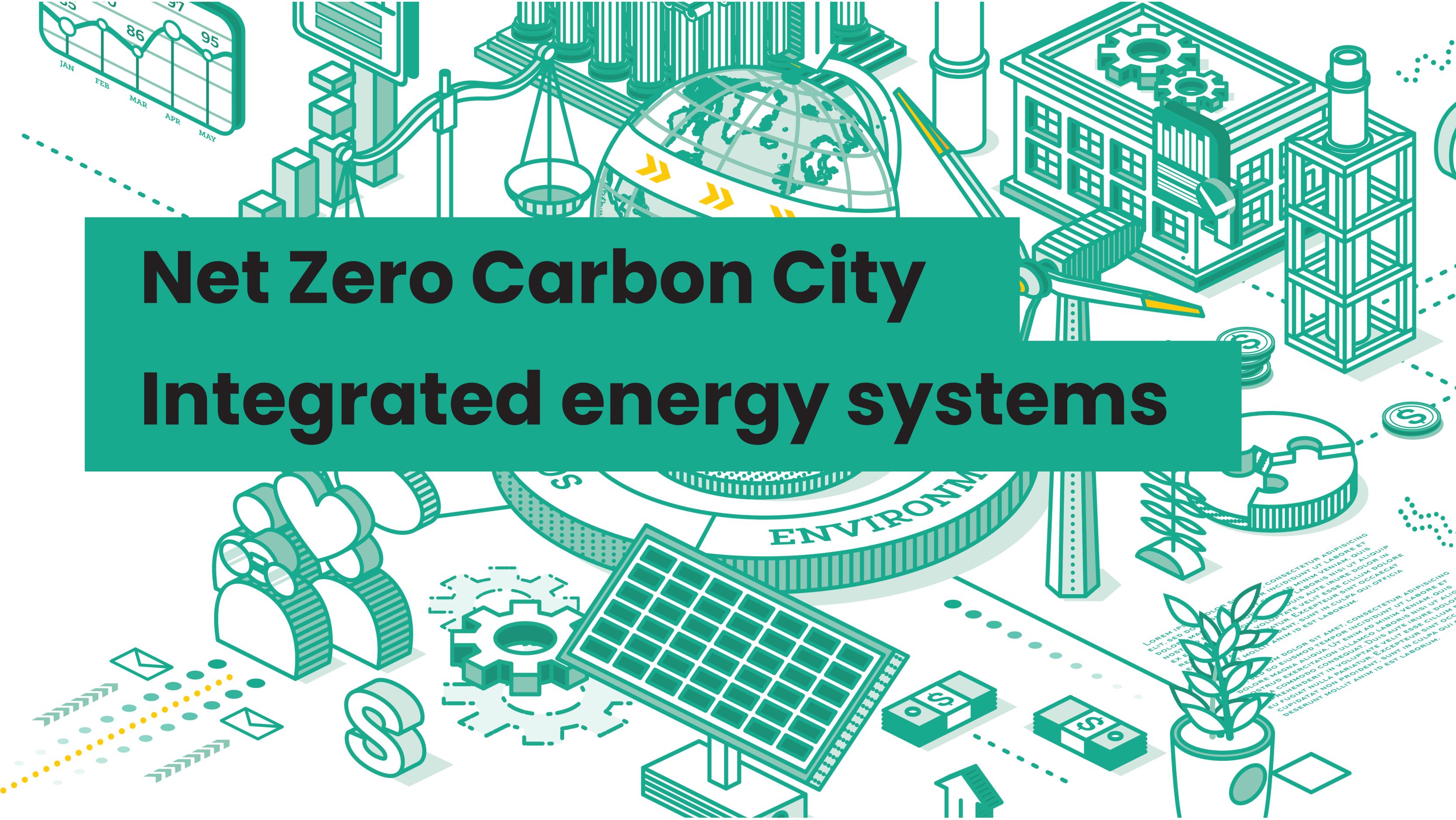
Smart Energy City

Integrated Approach in Cities

Net Zero Carbon City

Actions for stakeholders

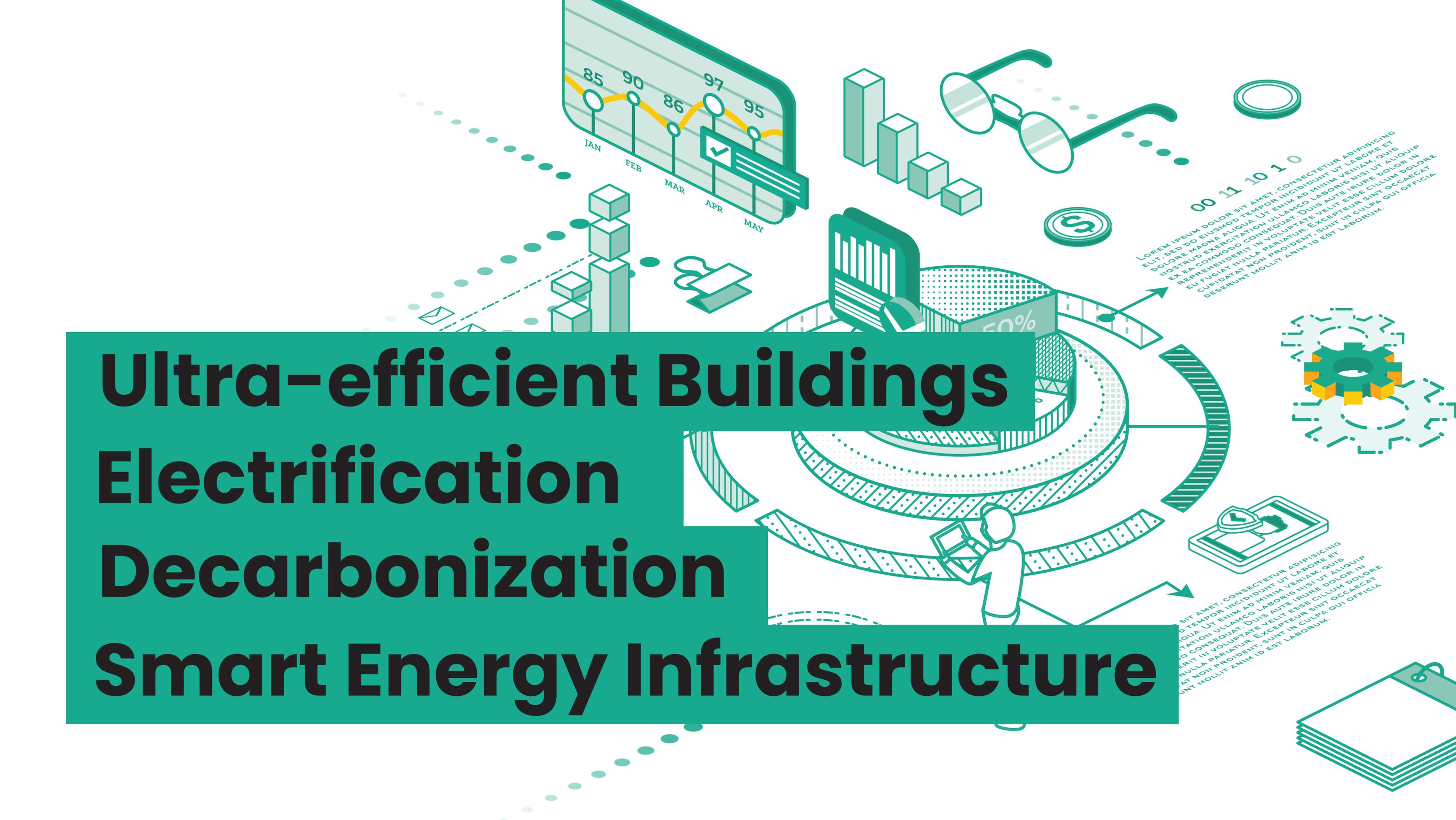




Net Zero Carbon City

Integrated energy systems

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Ultra-efficient Buildings

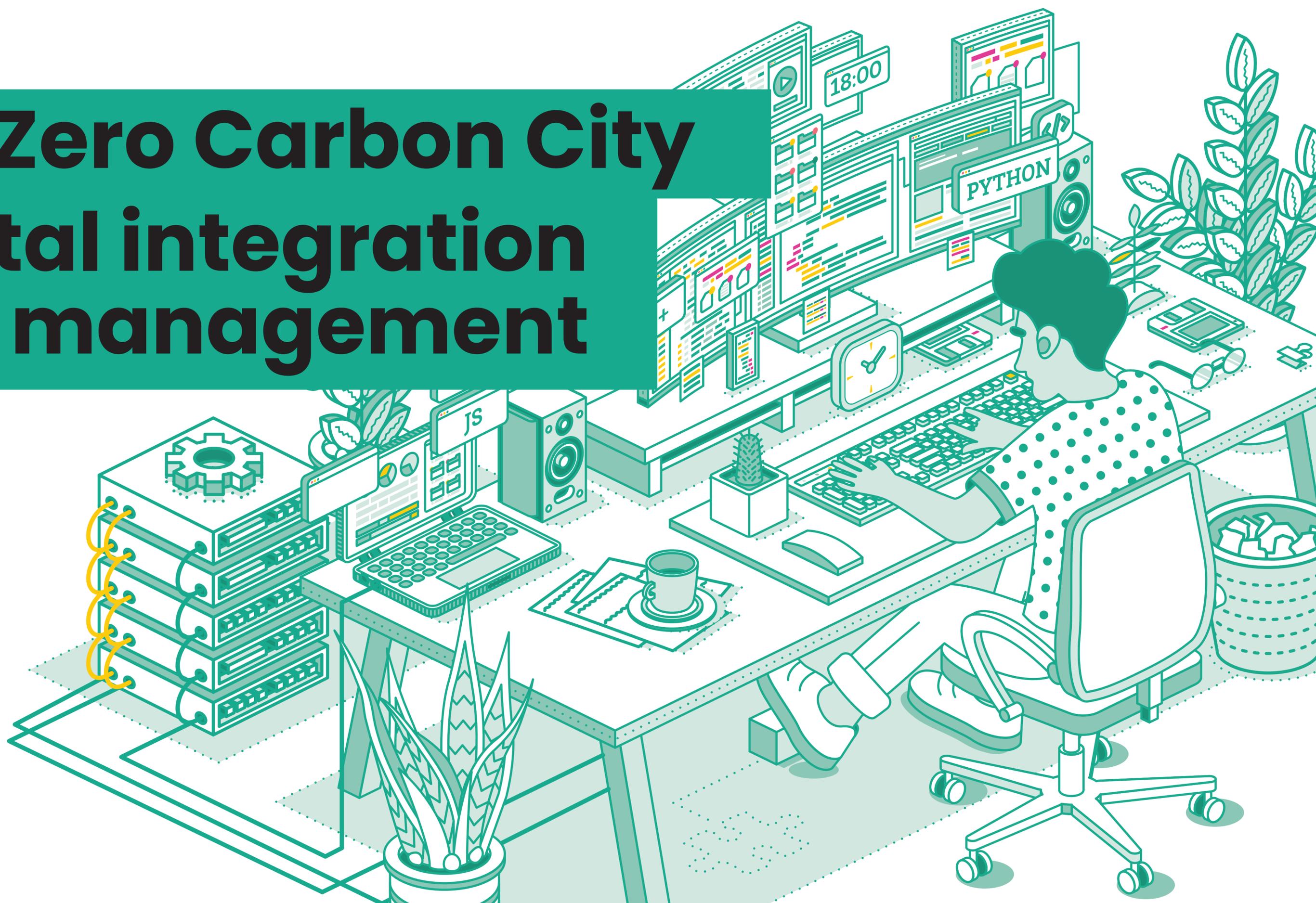
Electrification

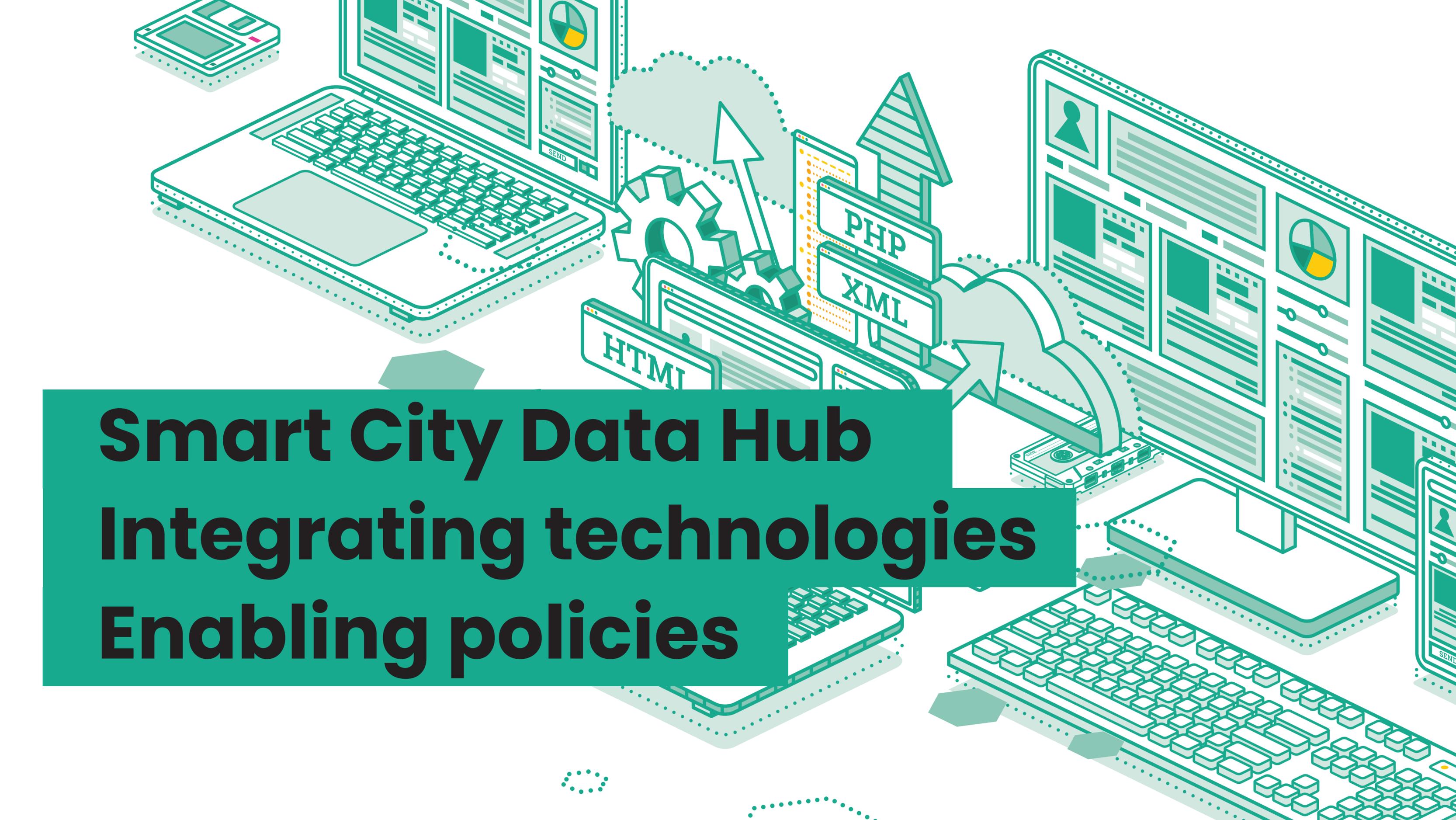
Decarbonization

Smart Energy Infrastructure

Net Zero Carbon City

Digital integration and management

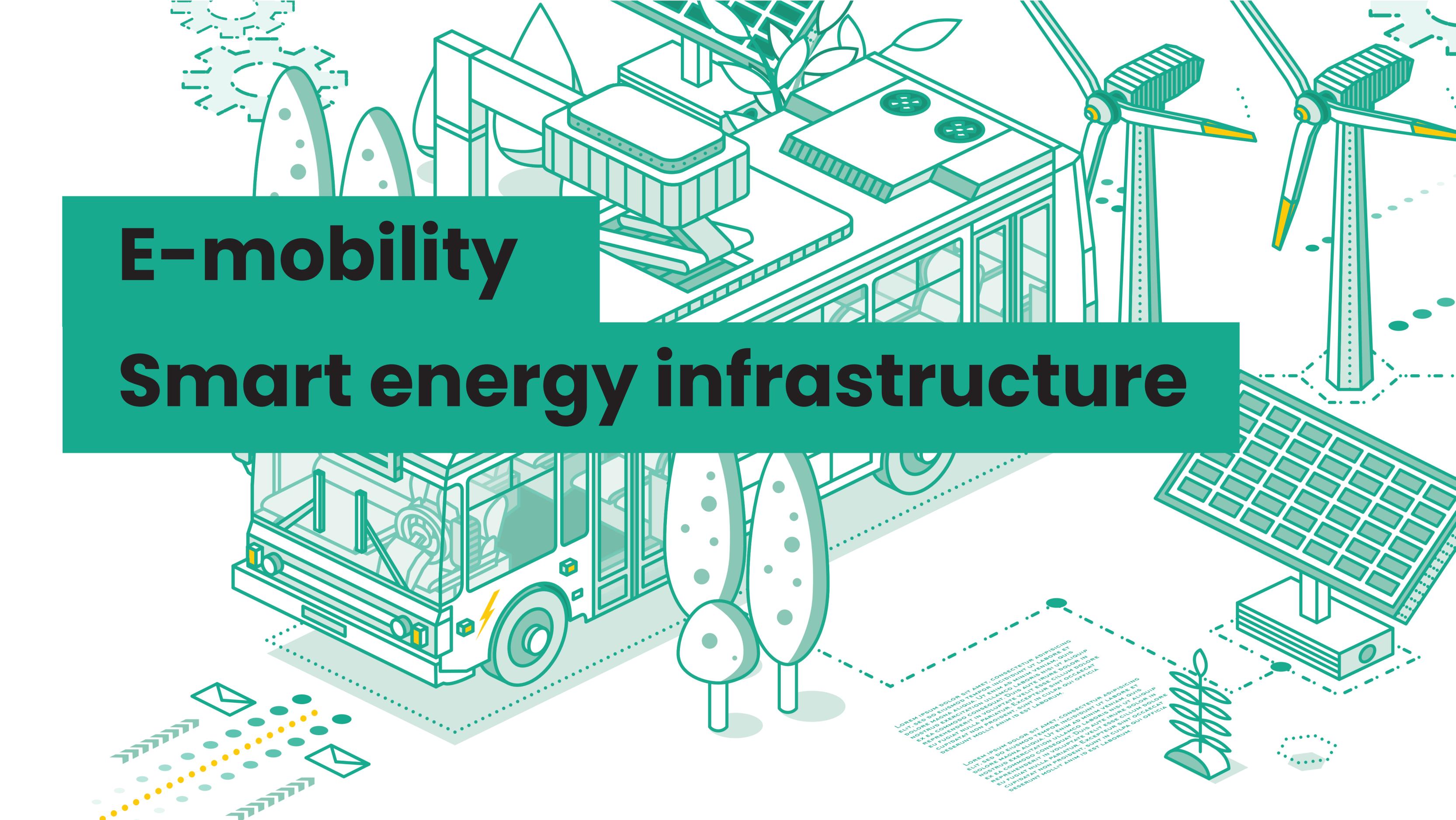




Smart City Data Hub
Integrating technologies
Enabling policies

Net Zero Carbon City Connected Intelligence





E-mobility

Smart energy infrastructure

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DOLORE MAGNA ALIQUA, UT ENIM AD MINIM VENIAM, QUIS
NOSTRUD EXERCITATION ULLAMCO LABORIS NISI UT ALIQUIP
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CUPIDATAT NON PROIDENT SUNT IN CULPA QUI OFFICIA
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Creating energy-efficient buildings and districts

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

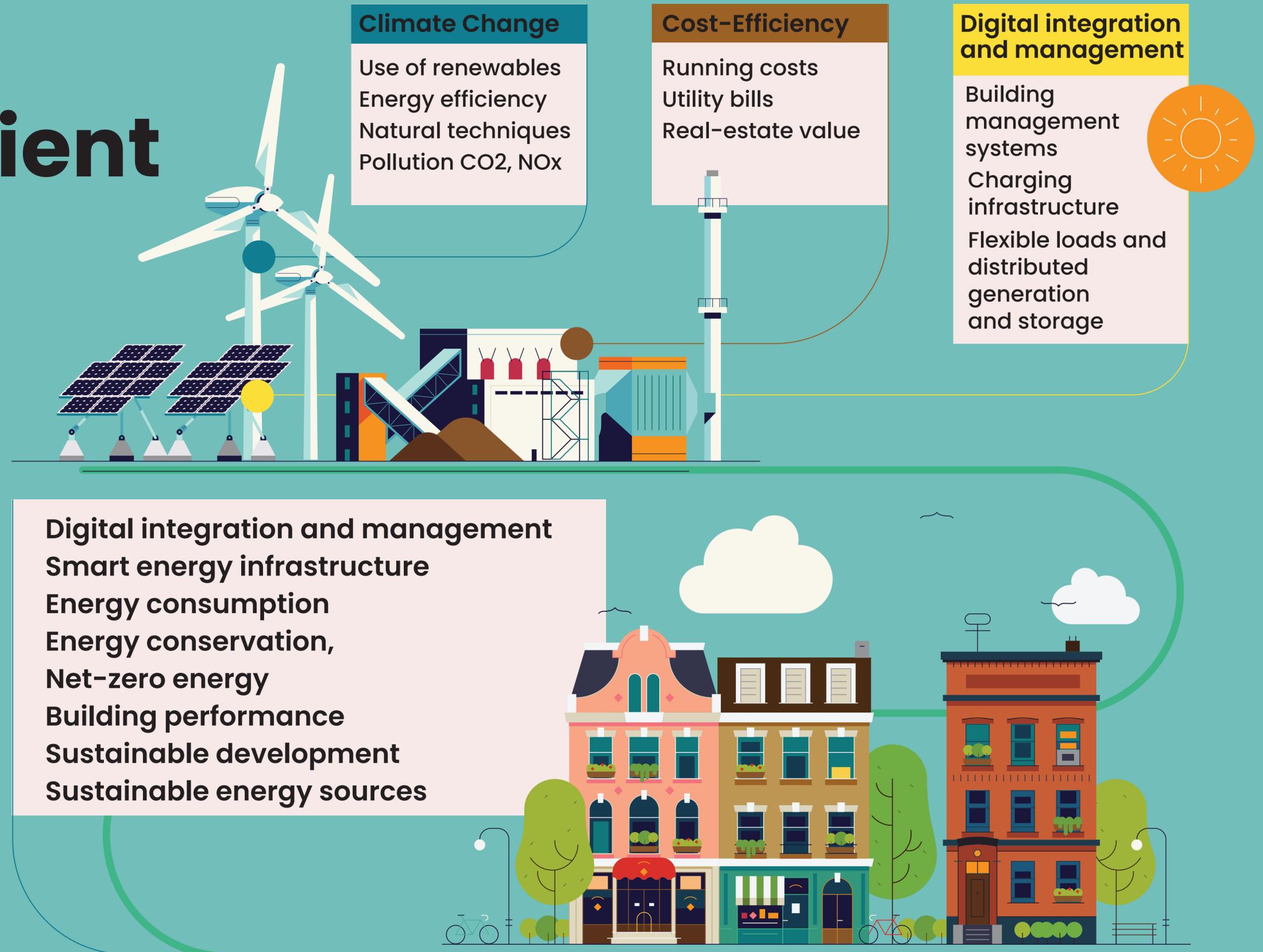
ISO/TR 52000-2, Energy performance of buildings — Overarching EPB assessment — Part 2: Explanation and justification of ISO 52000-1

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

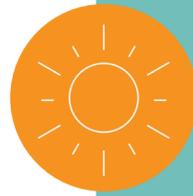
ISO 52127-1:2021, Energy performance of buildings — Building management system — Part 1: Module M10-12

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

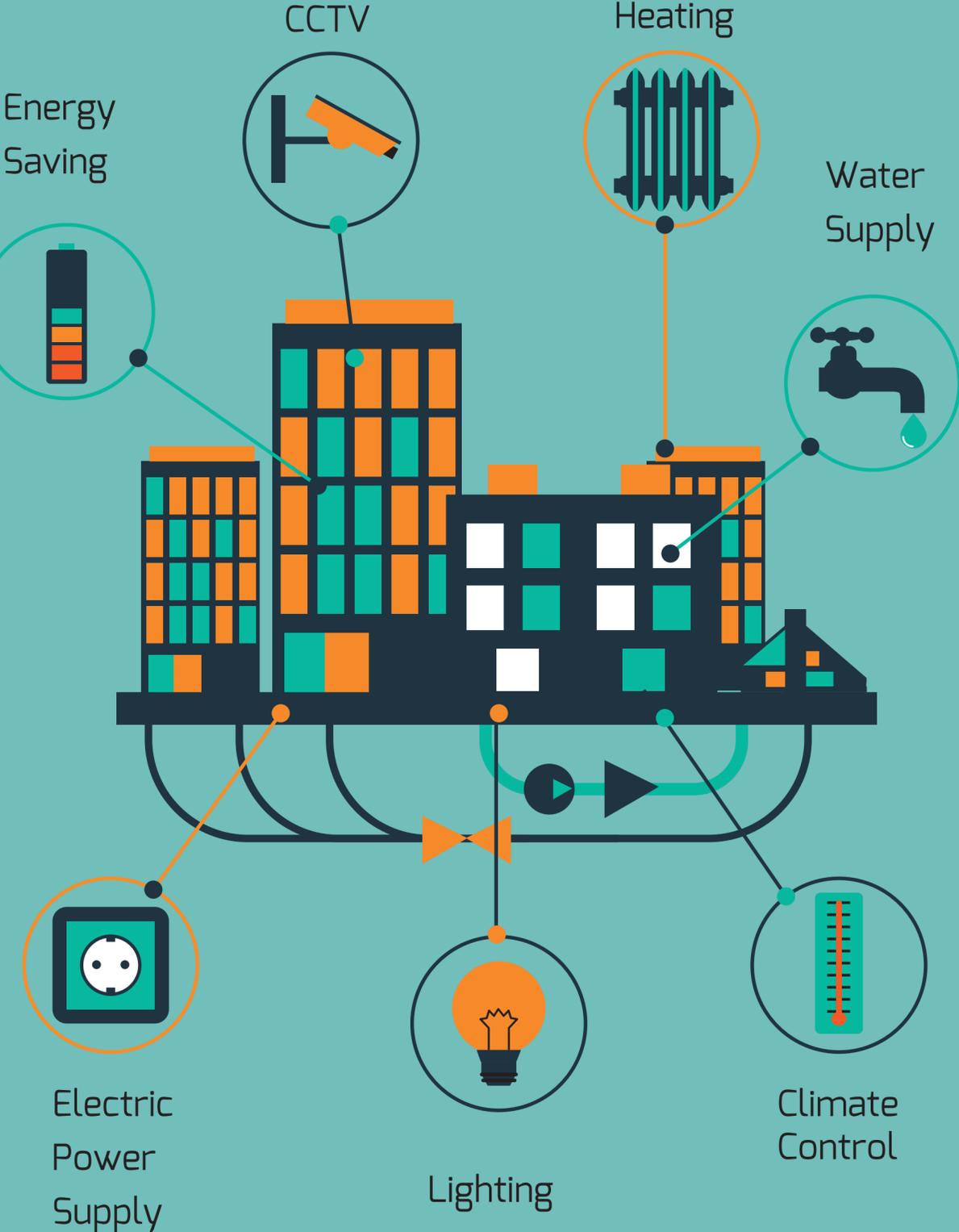
Decarbonization of city infrastructure
Digitalization as a means to accelerate
development of net-zero and resilient
cities

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

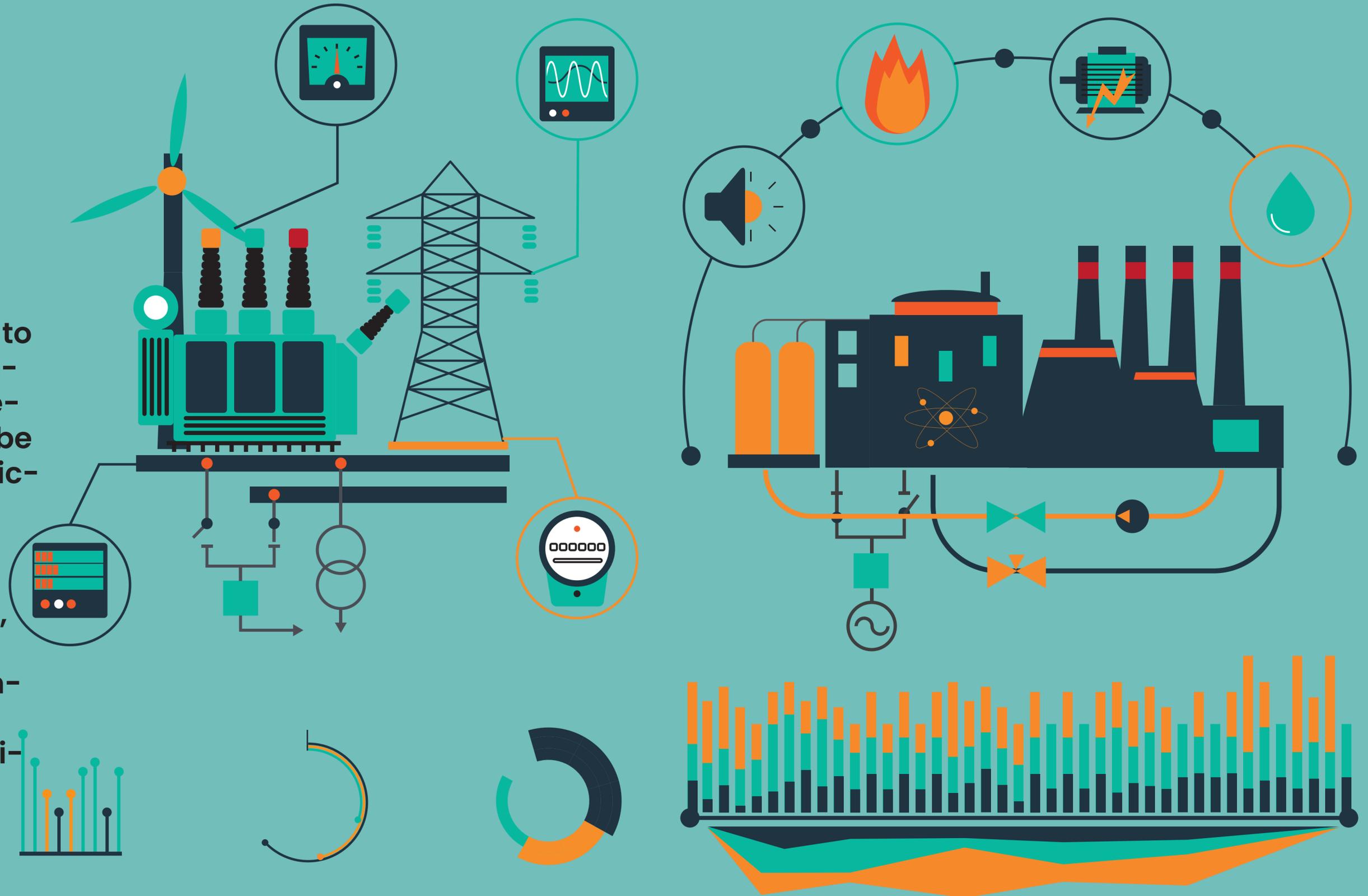


Reference: Net Zero Carbon Cities: An Integrated Approach, World Economic Forum

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

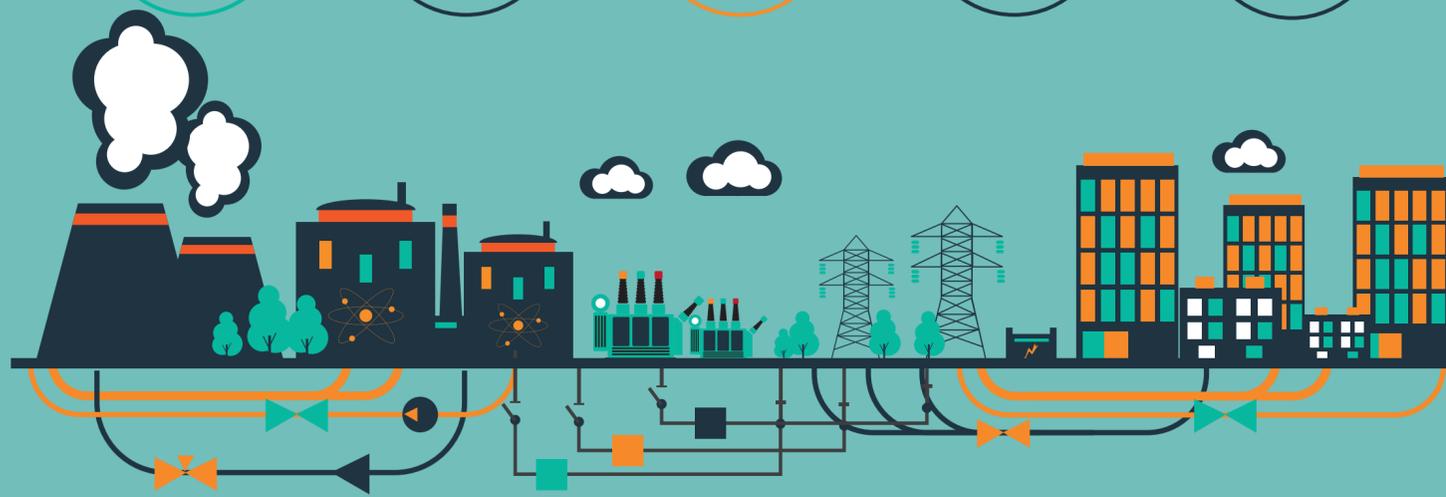
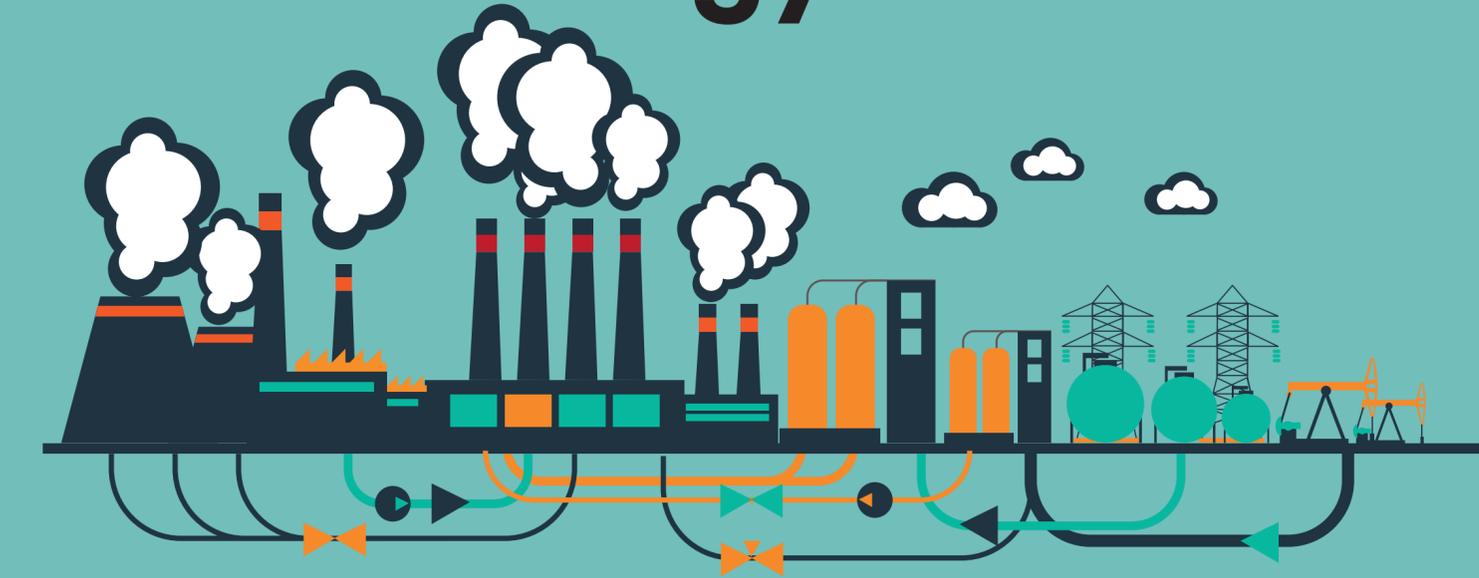


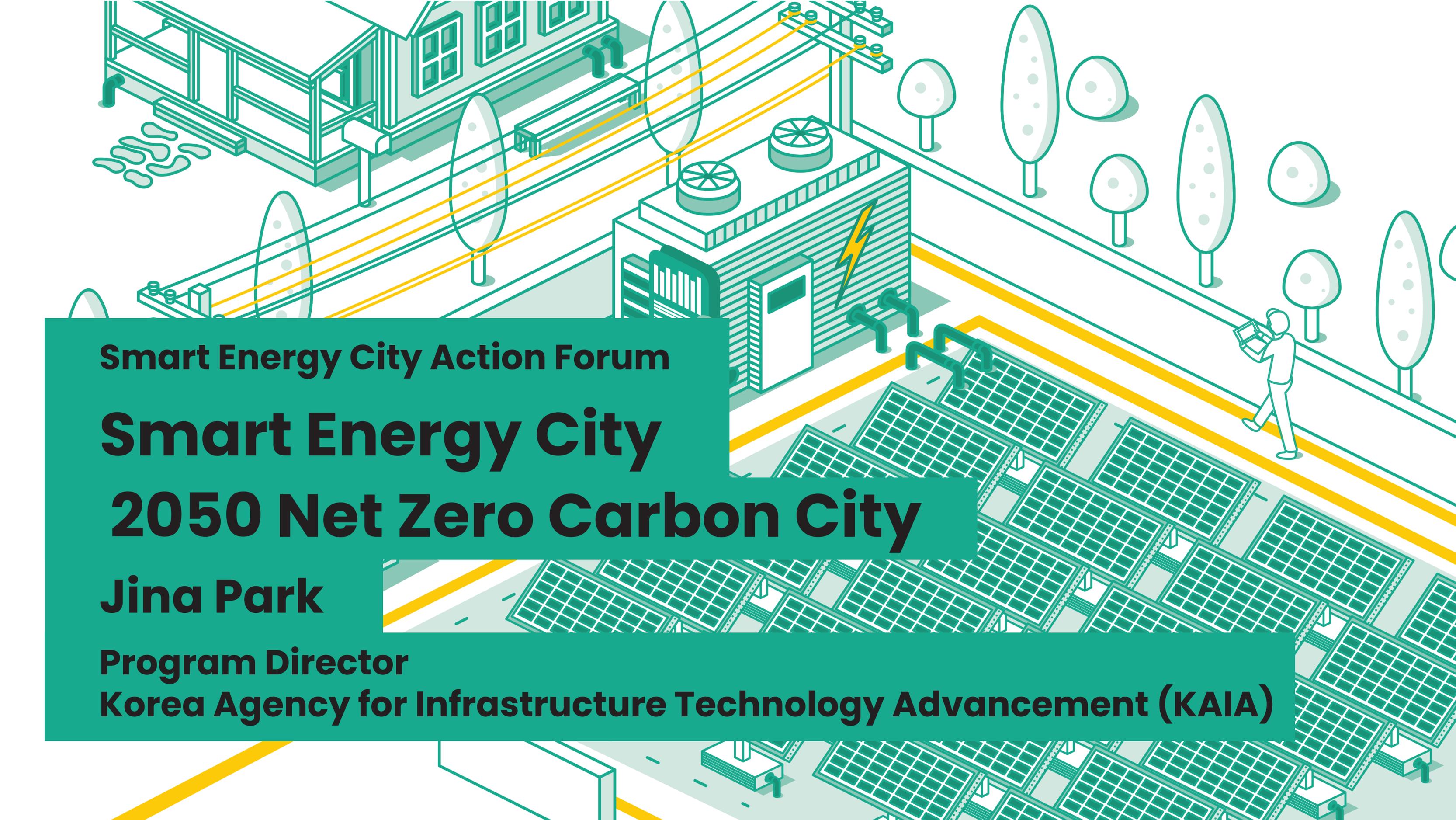
Smart City Data Hub

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



An isometric illustration of a smart city. In the foreground, there are several solar panels mounted on a grid. A person is walking on a path, holding a laptop. In the background, there are buildings, trees, and a power substation with a lightning bolt symbol. Yellow lines represent energy or data flow across the scene.

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