

Sustainable energy in cities: from global goals to local actions

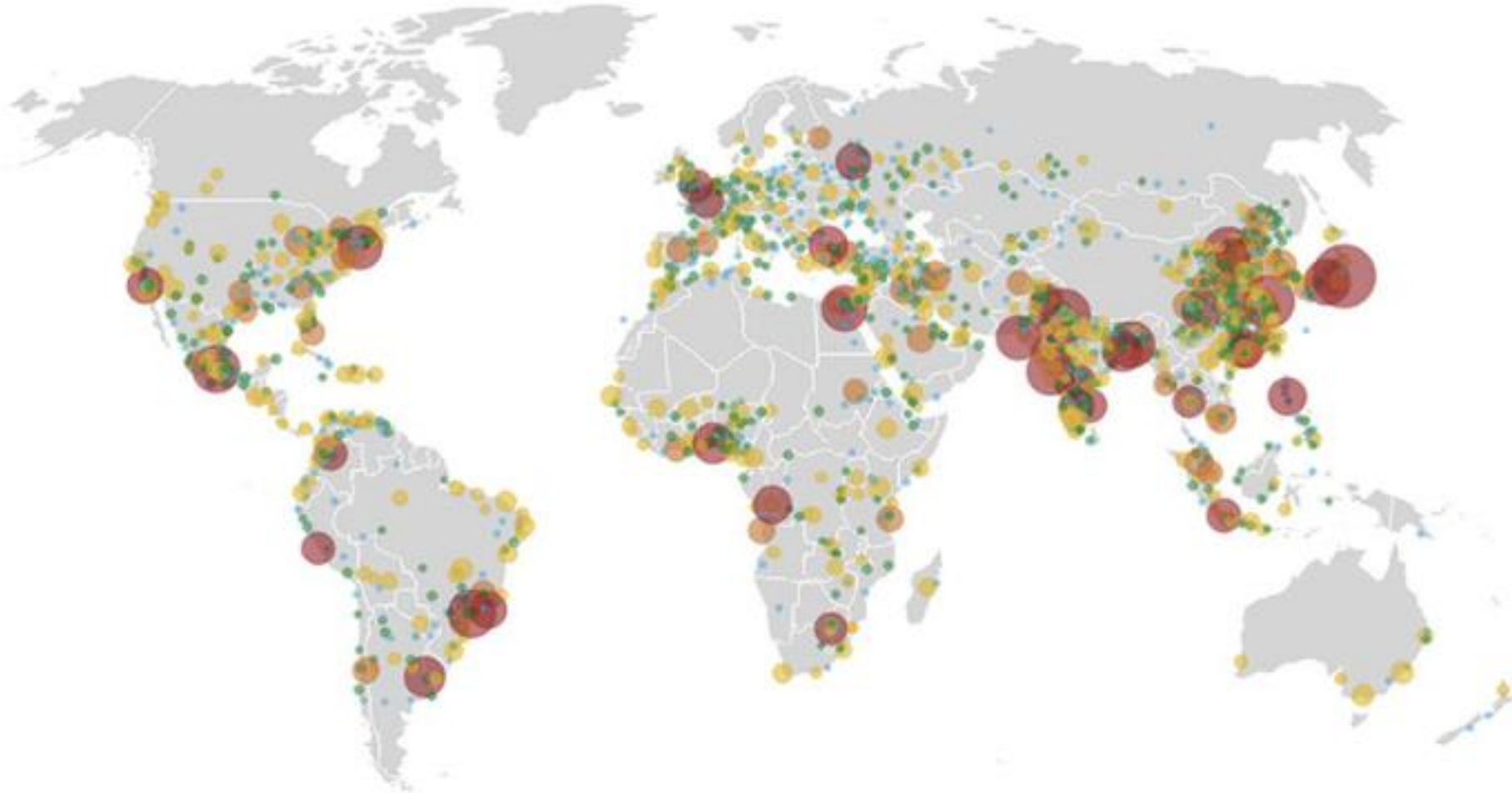
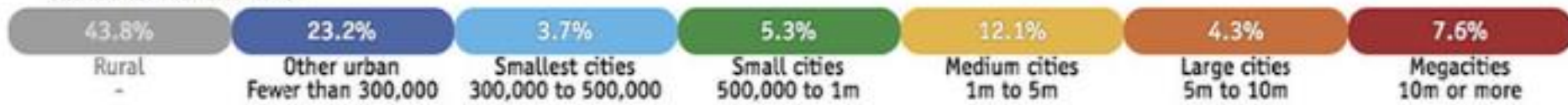
10 July 2020

ASE Webinar Series#4 Integrated Energy Systems for
Sustainable Cities - Empower Cities Post COVID19

Ksenia Petrichenko



GLOBAL CITY POPULATIONS*

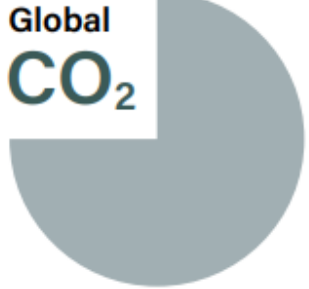


Population of world cities, distribution estimated for 2020.



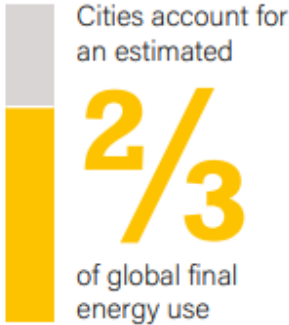
On March 11 WHO characterized COVID-19 as a pandemic.
At that moment there were **118,000** cases in 114 countries, and **4,291** people have lost their lives.
As of today, there are 12.2M cases globally with the death toll is at 554,304

Cities are key for Building Back Better



Cities account for three-quarters of human-caused global carbon dioxide emissions

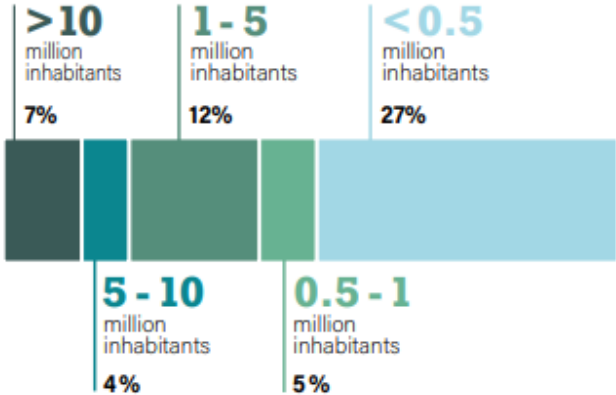
Energy consumption



One billion

people living in urban slums

Population distribution in cities



City definitions differ

Japan: **50,000** inhabitants Norway: **200** inhabitants

Distribution of megacities in the world



Population

55% of the world's population, (or **4.2 billion** people) lives in cities

GDP

80% of global GDP is generated in cities

Space

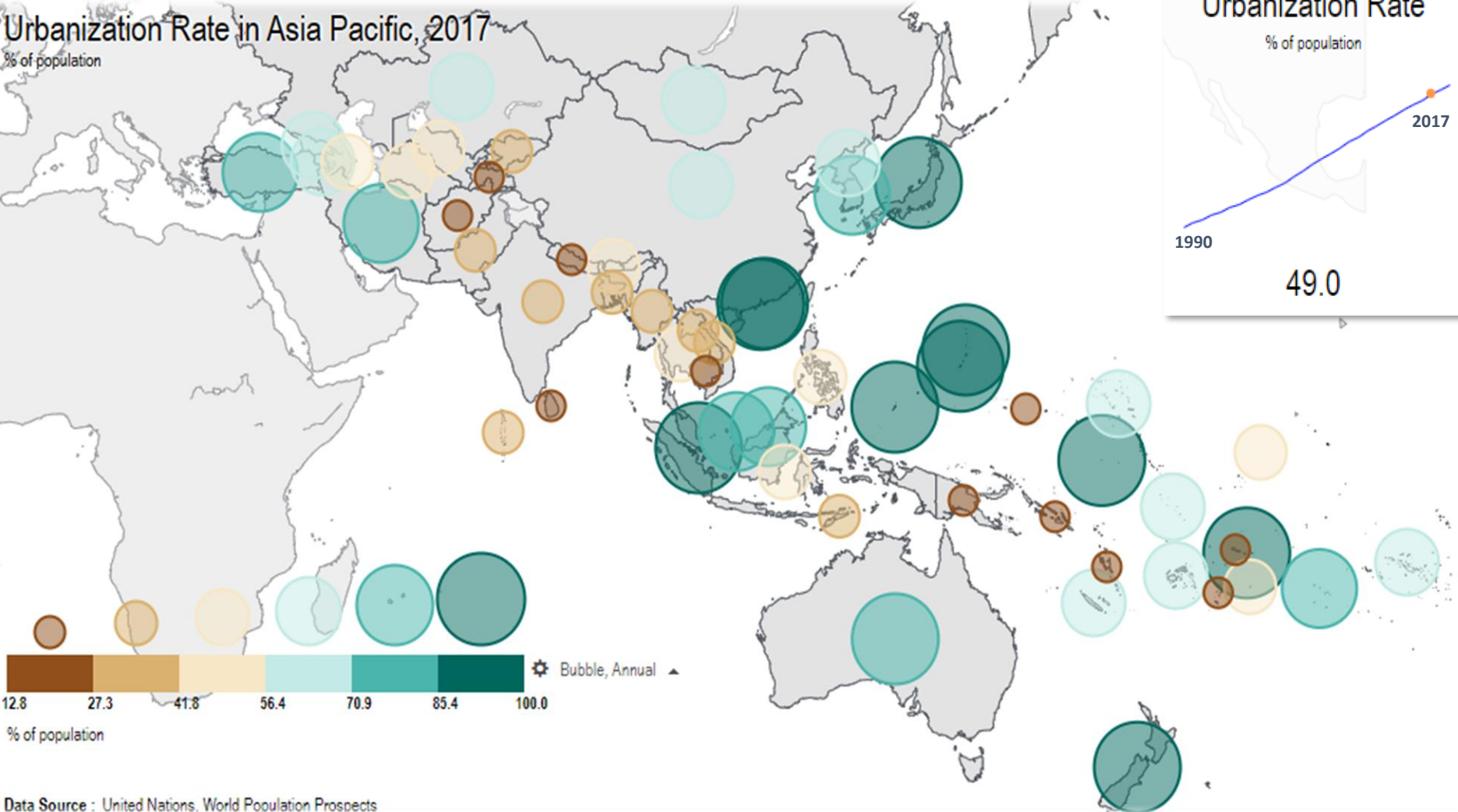
2.8%

Cities cover 3,629,312 km², or 2.8% of global land area

Rapid urbanization in Asia and the Pacific

Urbanization Rate in Asia Pacific, 2017

% of population



Data Source : United Nations, World Population Prospects

Building Back Better | From global goals to local actions



SDG Localisation –

“The process of defining, implementing and monitoring strategies at the local level for achieving global, national, and subnational sustainable development goals”



SDG | Localization

“The process of defining, implementing and monitoring strategies at the local level for achieving global, national, and subnational sustainable development goals”



Enabling Policy and Institutional Environment

Adoption of new and potential revision of some existing laws and regulations as well as the institutional framework to ensure policy coherence, coordination and cooperation among all relevant stakeholders and monitoring of the implementation process

Data Ecosystems

Strong data ecosystem should be established at the national and local levels in order to monitor, track and report on SDG indicators, which will support establishment of the baseline, decision-making processes and application of integrated approach to construction of SDG implementation strategies

Stakeholder Engagement

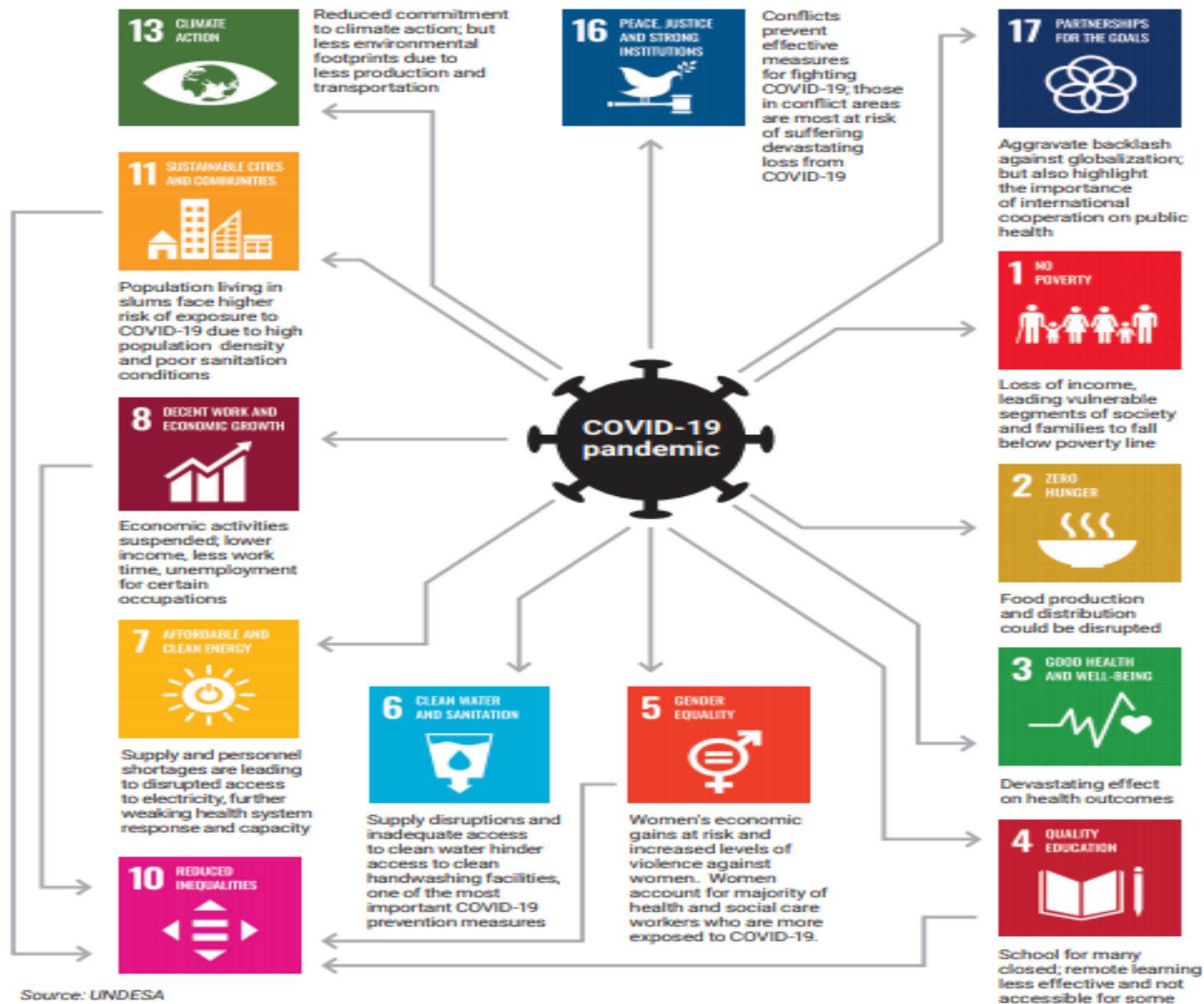
Multi-stakeholder engagement is critical for achievement of the SDGs, which will require the sustained efforts of different stakeholder groups (civil society, the private sector, academia, individuals, countries and multilateral organizations) on development and Implementation of initiatives for achieving the SDGs

Financing

Mobilizing public resources domestically and aligning private sector investment with the SDGs, as well as promoting equity, efficiency and effectiveness in the use of resources. Measures need to be put in place to leverage and align not only large-scale investments but also smaller financial initiatives that promote sustainable development

Innovation

Both social innovation that promotes collaborative engagement among all stakeholders to address development challenges, and to the use of new technologies to promote efficiency in administering SDG implementation strategies



SDG 7 | Ensure access to affordable, reliable, sustainable and modern energy for all



250,000

deaths globally are associated with climate change

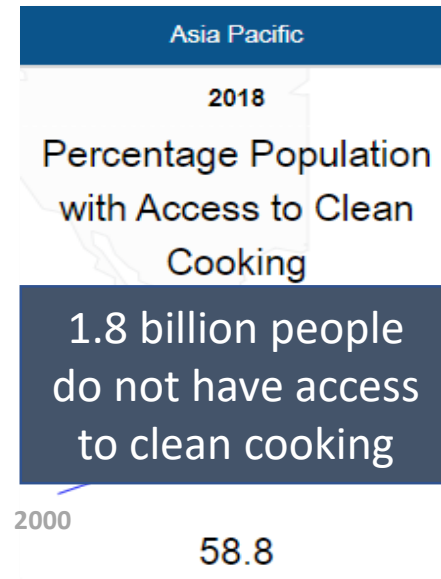
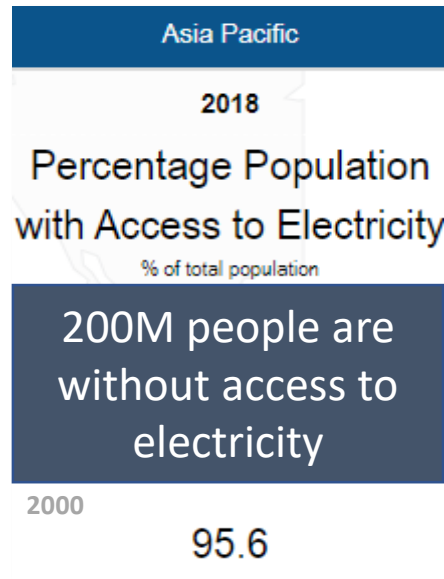
4,200,000

deaths per year are linked to air pollution, burning fossil fuels (WHO)

TARGET	7-1	TARGET	7-2	TARGET	7-3	TARGET	7-A	TARGET	7-B
UNIVERSAL ACCESS TO MODERN ENERGY		INCREASE GLOBAL PERCENTAGE OF RENEWABLE ENERGY		DOUBLE THE IMPROVEMENT IN ENERGY EFFICIENCY		PROMOTE ACCESS TO RESEARCH, TECHNOLOGY AND INVESTMENTS IN CLEAN ENERGY		EXPAND AND UPGRADE ENERGY SERVICES FOR DEVELOPING COUNTRIES	

Solutions integrating technologies, policies, institutions and people are needed

SDG 7 | Energy access



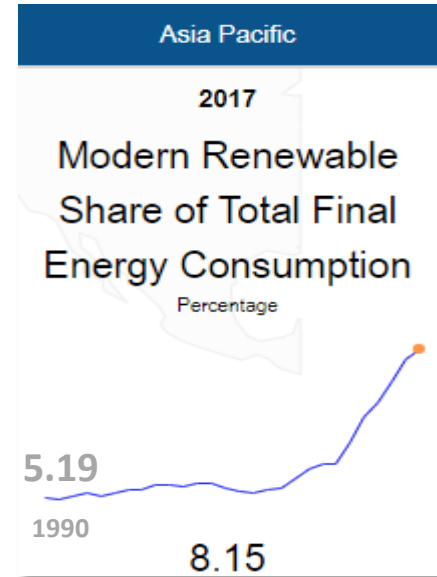
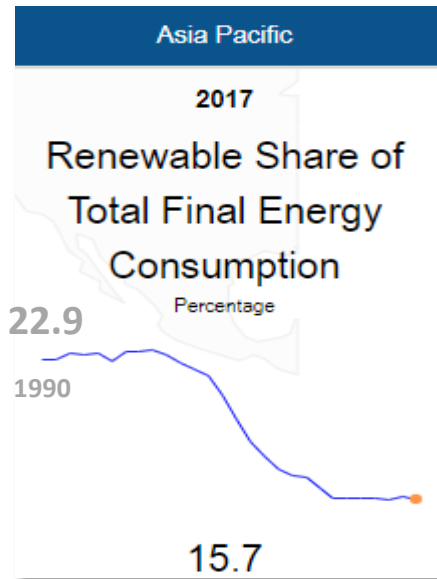
- 250M people live in slums and informal settlements
- Coordination between housing policies, social housing and urban planning
- Incentives to off-grid or mini-grid renewable systems to improve energy access, enhance employment, well-being, health and societal resilience
- Access to electricity as well as sustainable cooling in hospitals and health facilities
- Improving the access to cold chain for medicine and potential vaccine storage and transportation
- Improving access to clean cooking to improve respiratory health of people
- Access to internet, digital devices and data

SDG 7 | Renewable energy

TARGET 7-2

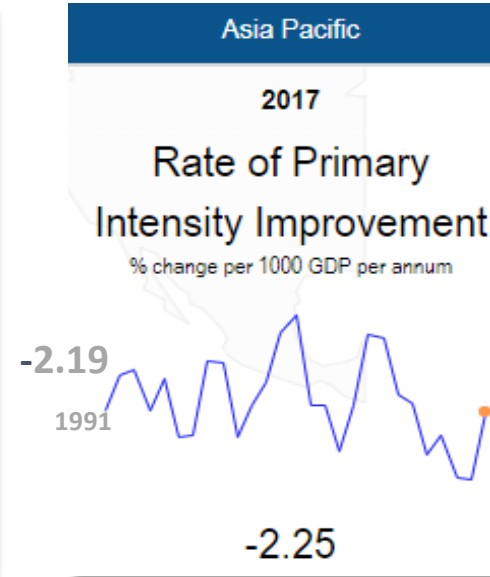
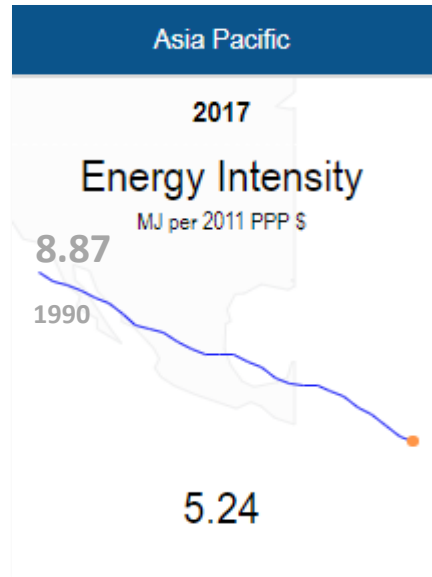


INCREASE GLOBAL PERCENTAGE OF RENEWABLE ENERGY



- RE is the cheapest source of new power generation in many countries
- Improves city's self-sufficiency by transitioning to local clean energy sources, e.g. solar PV, solar thermal and waste energy
- Greater conversion efficiency through combined heat and power systems linked to district energy systems
- Stimulus spending to mobilise finance for utility-scale renewables, while also creating jobs, as well as to improve the flexibility of the power system: smart grids, electricity storage, integration of RE

SDG 7 | Energy efficiency

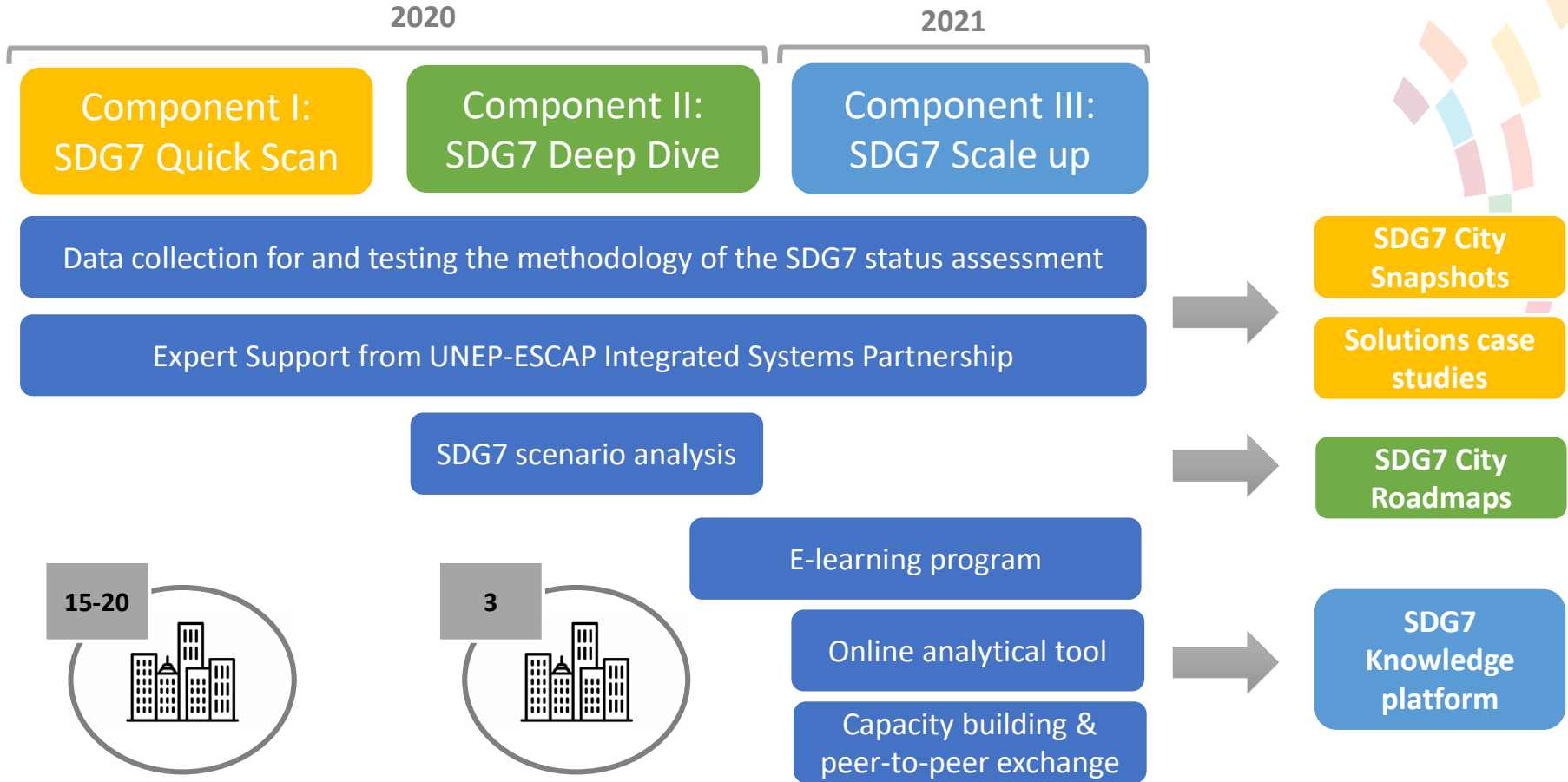


- EE across sectors to reduce energy demand and energy costs
- Improvement of building energy performance, along with the comfort and safety, through EE retrofit to reduce household energy bills and create jobs
- Smart and digitalized energy system in cities for active energy management and energy savings
- Shift towards electricity use instead of direct use of fossil fuels: electric vehicles, electrification of industries, electric appliances and equipment for cooling and cooking should be combine with higher system efficiency and decarbonization of the electricity system
- Training to reduce skill shortages in the power and energy sector

ESCAP | Support for SDG7 localization

Project objective

to increase the capacity of cities in ASEAN to accelerate development and implementation of SDG7-related actions





United Nations
Climate Change

We have **a choice.**

We can **go back** to where we were,
or we can invest in a better, **more sustainable** future.

We can **invest in fossil fuels**, whose markets are volatile
and whose emissions lead to lethal air pollution.

Or, we can **invest in renewable energy**, which is reliable,
clean and economically smart.



António Guterres
UN Secretary-General

THANK YOU!

Ksenia Petrichenko
ESCAP Energy Division
ksenia.Petrichenko@un.org

