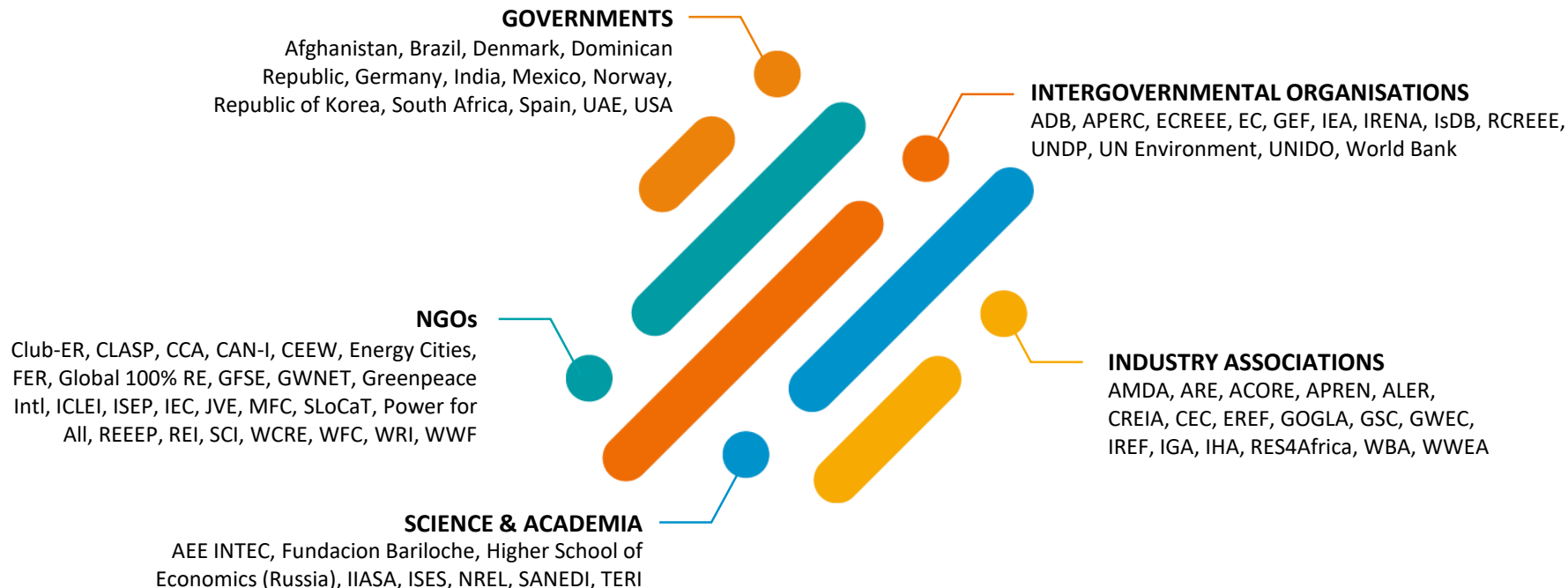




**REN21**  
RENEWABLES NOW

## REN21: the only global renewable energy multi-stakeholder community



# AN INTERNATIONAL POLICY NETWORK TO BUILD A SUSTAINABLE ENERGY FUTURE WITH RENEWABLES



Who we are



Global Status Report: yearly  
publication since 2005



Renewables in Cities  
Global Status Report



Regional Reports



Global Futures  
Reports



Thematic Reports

Knowledge



Network and  
Community



Debates

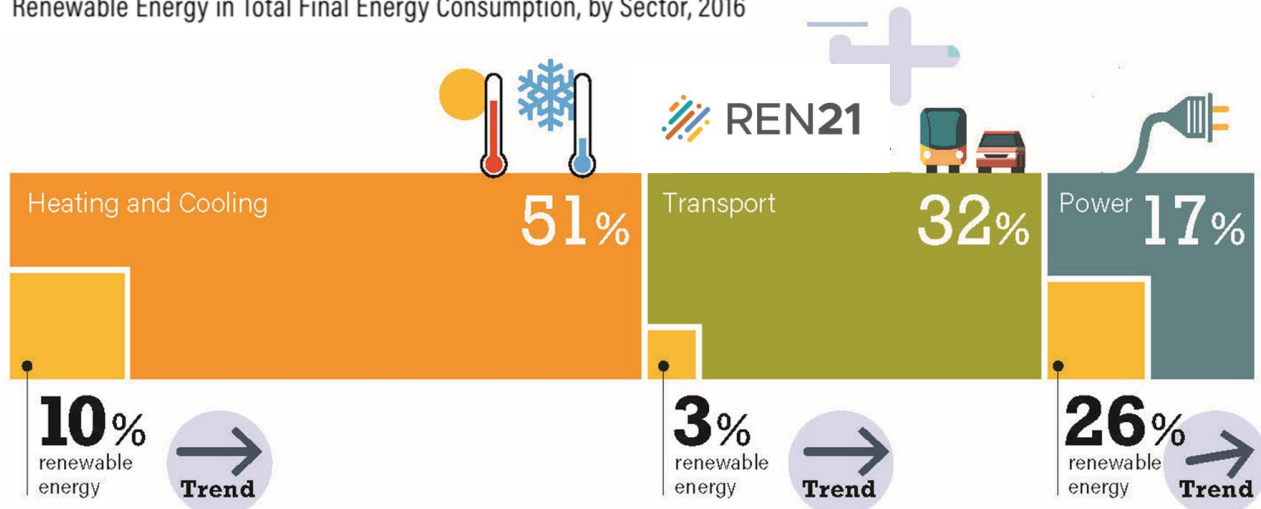


23-25 October 2019

## Beyond power

Over 80% of demand for heating, cooling and transport

Renewable Energy in Total Final Energy Consumption, by Sector, 2016



Note: Data should not be compared with previous editions of the Renewables Global Status Reports.  
Electricity also supplies final energy demand in the heating and cooling sector (71% in 2016), and transport sector (11% in 2016).

Source: Based on OECD/IEA.

## Cities in the world



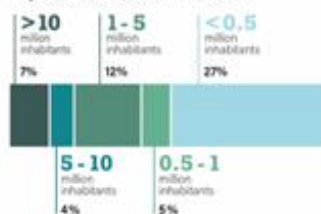
Cities account for three-quarters of human-caused global carbon dioxide emissions.

### Energy consumption



**One billion**  
people living in urban slums

### Population distribution in cities



### City definitions differ

**50,000** inhabitants (Japan)  
**200** inhabitants (Norway)

### Distribution of megacities in the world

Cities with more than 10 million inhabitants



### 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 km<sup>2</sup>,  
or 2.8% of global land area

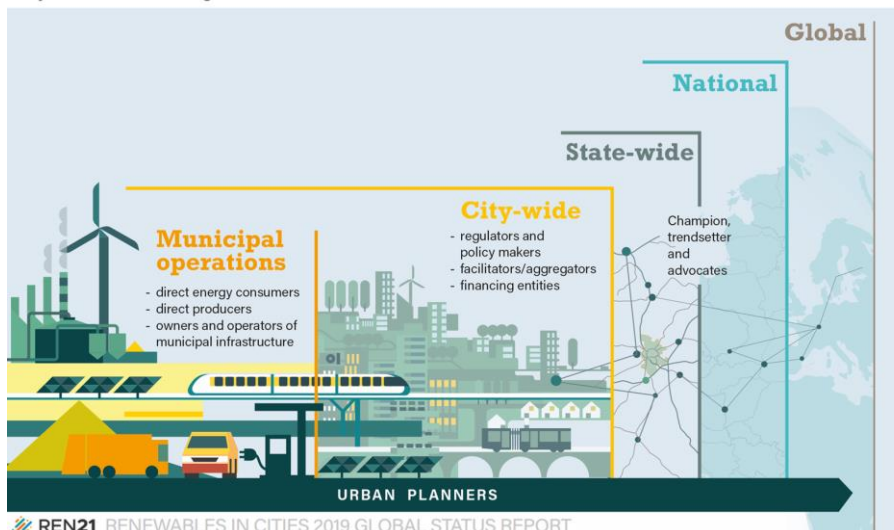
### Urban infrastructure



# Cities' Multiple Roles in the Energy Transition

## Role in decarbonising municipal operations and city-wide energy use

City Roles in Advancing Renewables Across Different Levels of Governance



	Municipal	City wide	State/ Provincial	National
Target setters	■■■	■■■	■■	■
Energy consumers	■■■	■■	■■	■
Energy producers	■■■	■■	■■	■
Owners & operators of infrastructure	■■■	■■■	■■	■
Regulators & policy makers	■■■	■■■	■■	■
Facilitators/aggregators	■■■	■■■	■■	■
Financing entities	■■■	■■■	■■	■
Urban planners	■■■	■■■	■■	■
Champions, trendsetters and advocates	■■■	■■■	■■■	■■■

■■■ Direct city influence

■■ "Secondary" city influence

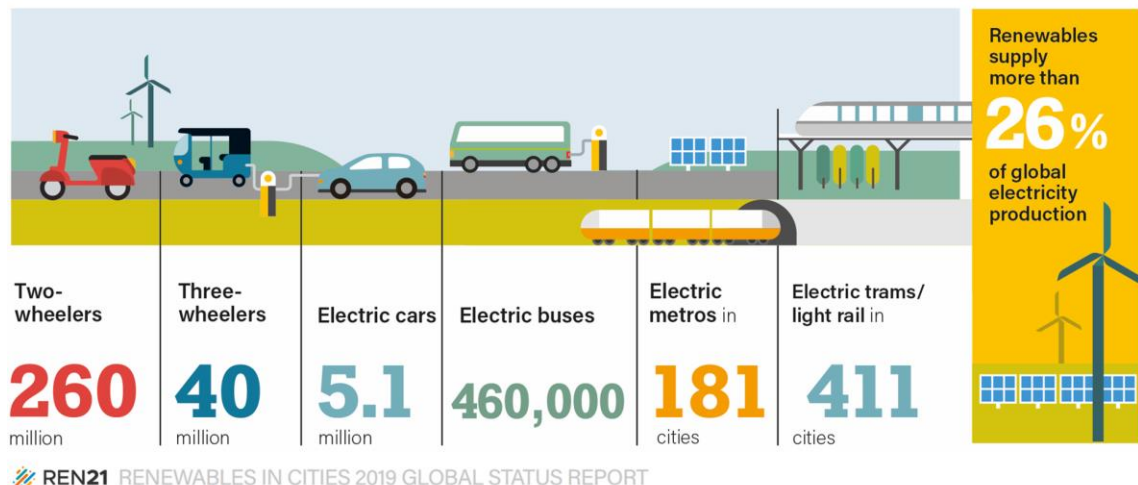
■ Marginal city influence

## Renewable fuels in cities

### Electrification of urban transport beyond metros and light rails

- Transport electrification is expanding rapidly
  - increased 11% globally in 2018
- Emergence of new forms of e-mobility

Global Electric Vehicle Markets, 2018

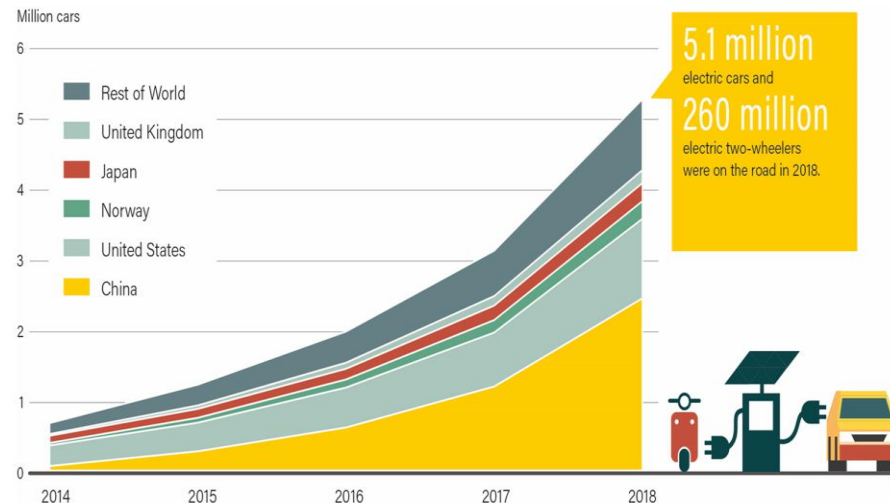


## Electric Vehicles in Cities

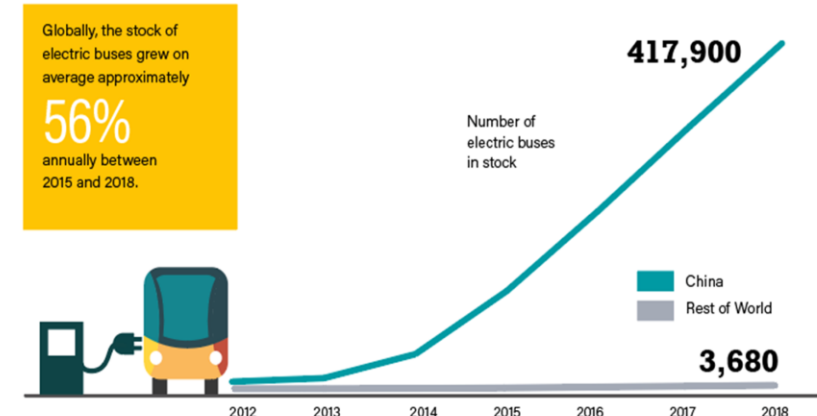
40% of all EVs are clustered in 20 cities  
(3% of global population)

Most of the world's electric buses  
are deployed in China

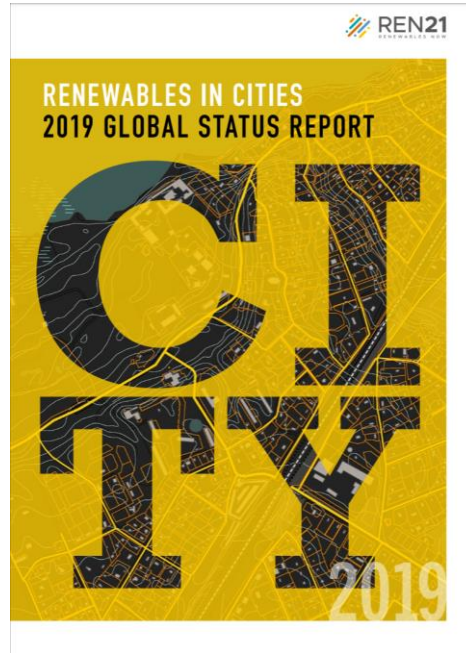
Electric Car Global Stock, Top 5 Countries and Rest of World, 2014-2018



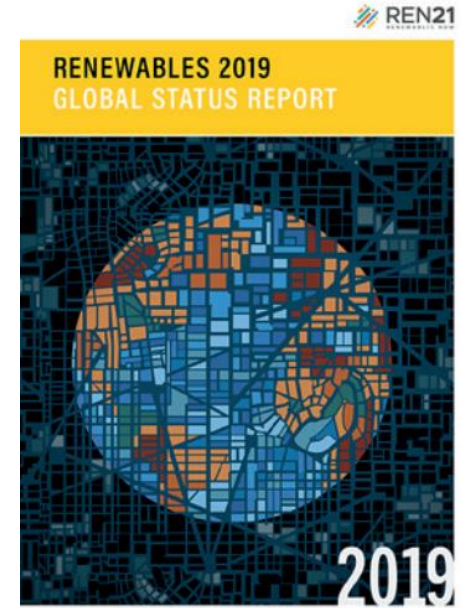
Electric Bus Global Stock, China and Rest of World, 2012-2018



Note: Data are from BloombergNEF. Sales add up to 425,000 electric buses, which presents a discrepancy from the 460,000 reported by the International Energy Agency.  
RoW = Rest of World



[www.ren21.net/cities](http://www.ren21.net/cities)



[www.ren21.net/gsr](http://www.ren21.net/gsr)