

# DID YOU KNOW?

Here are some “big picture” facts behind changes coming to the electricity sector.

## Population Growth

9.7 Billion  
2050



- 9.7 billion world population by 2050
- 66% expected to live in cities
- Compare to 7.2 billion and 53% in cities in 2014



5.8  
Million

Increasing urbanization will result in construction of a city about the size of Singapore (5.8 million) each month until 2050

## Increasing Demands for Electricity



85%

85% of world population has access to electricity now

15% of world population without electricity wants it

60%–  
70%+



Buildings use 60% of electricity worldwide

Buildings in the developed world use more than 70% of electricity



33%  
2040

By 2040, 33% of all vehicles are projected to be electric

## Burning Coal for Electricity

40%



40% of world electricity comes from burning coal

Future use of coal expected to remain flat



70%

Coal contributes 70% of the carbon dioxide (CO<sub>2</sub>) emissions from electricity generation



Coal contributes other emissions that are harmful to the environment and human health

## Renewable Energy and Electrical Storage on the Rise



Renewables (biomass, hydropower, geothermal, wind, and solar) are the world's fastest-growing energy source



Battery technology is improving, and economies of scale are contributing to a downward trend in cost

Sources: The World Bank, United Nations Department of Economic and Social Affairs, United Nations Environment Programme, U.S. Environmental Protection Agency, Bloomberg New Energy Finance, World Energy Council, U.S. Energy Information Administration

## Preparing for Our New Energy Future

Since electric lights first appeared in buildings, the electrical grid and buildings have had an important relationship. To date, that relationship has largely been one-sided—the grid provides electricity, and buildings are passive consumers. However, new technologies and efforts to reduce energy costs and the environmental impacts of electricity generated from fossil fuel are rapidly transforming how buildings interact with the electrical grid. Additional drivers in this transformation include technological advancements and falling prices in renewable energy technology, batteries, sensors and controls, remote access technologies, and building management systems.

This document is intended to explain the issues and terminology, as well as the challenges and opportunities, associated with changes underway in the electricity sector that affect buildings professionals.