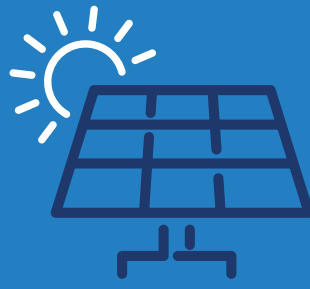


INNOVATIVE BUILDING MATERIALS WILL DRIVE THE **NET ZERO ENERGY BUILDING BOOM**



"NET ZERO ENERGY BUILDING" DEFINED

The World Green Building Council defines net zero energy buildings as, "buildings that are highly energy efficient and fully powered from on-site and/or off-site renewable energy sources."

A GLOBAL MOVEMENT

Many countries and cities have expressly set goals for net zero energy buildings in an effort to meet the highest standards set by the Paris Agreement.

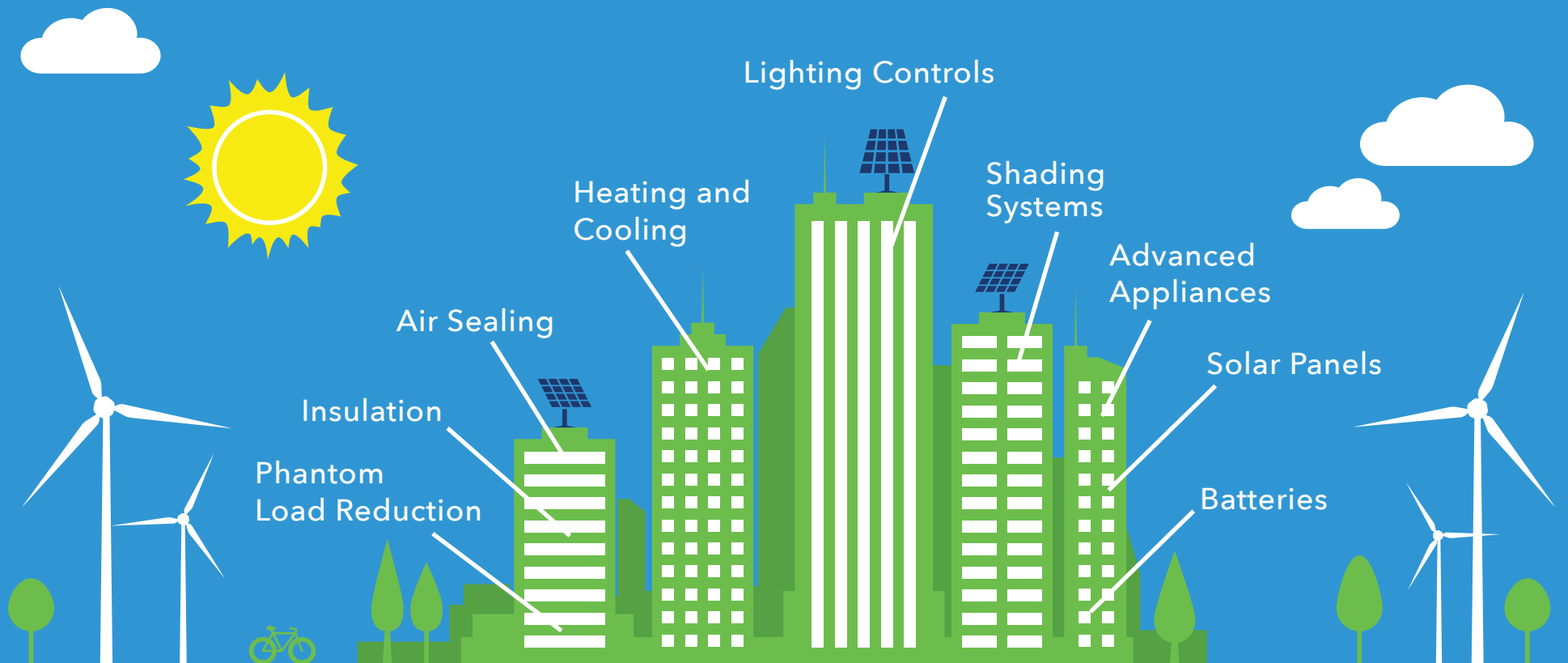


IN 2018 **61%**

of U.S.-based organizations expressed that they are "extremely or very likely to have one or more facilities that are nearly zero, net zero or positive energy/carbon in the next 10 years."

THIS REPRESENTS A
14%
INCREASE FROM
THE PRIOR YEAR.

FEATURES OF NET ZERO ENERGY BUILDINGS



ADVANCED BUILDING MATERIALS ARE CRITICAL TO ACHIEVE NET ZERO ENERGY OBJECTIVES

Building materials, such as window coatings, concrete mixtures, and insulation, are being modernized to improve temperature stability indoors. Energy efficient appliances and equipment (e.g., heat pumps, water heaters, and furnaces) are being redeveloped and improved to reduce their carbon footprint. LED lighting and movement sensors are helping reduce total electricity usage. Wind, solar, or hydro systems, or a combination of all three, are also being integrated into the buildings for onsite renewable energy generation.

TECHNOLOGY AND INNOVATION



As the demand for net zero energy building increases, there is a corresponding increase in the need for researchers and organizations to develop technology related to the net zero infrastructure. This shift from traditional building plans to net zero plans requires technological advances that provide cost-effective and energy-efficient solutions.

POLICY-MAKING



Innovative policy-making will be critical in driving the net zero movement forward. While net zero building costs are likely to decline over time with advancements in technology, construction, engineering, and manufacturing processes, taxes and other incentives offered at the state and federal levels, coupled with the energy consumption related savings, are beginning to make net zero buildings an attractive option today.

SOURCE 1: www.worldgbc.org

SOURCE 2: www.hpac.com/around-web/johnson-controls-2018-energy-efficiency-indicator-survey-global-spending-energy

www.brookskushman.com

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