



Fire Safety Challenges of New Energy Systems

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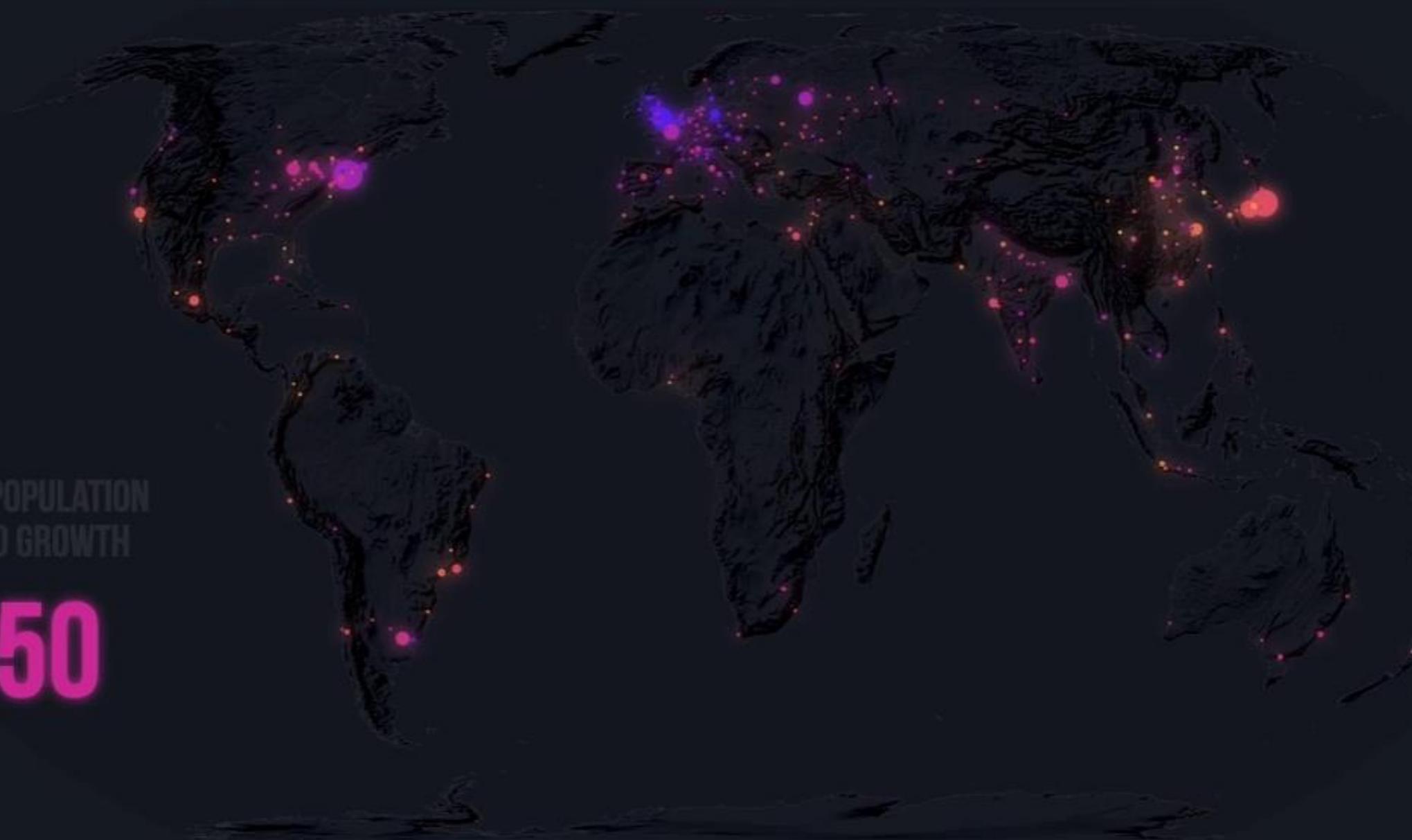
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URBAN POPULATION
SIZE AND GROWTH

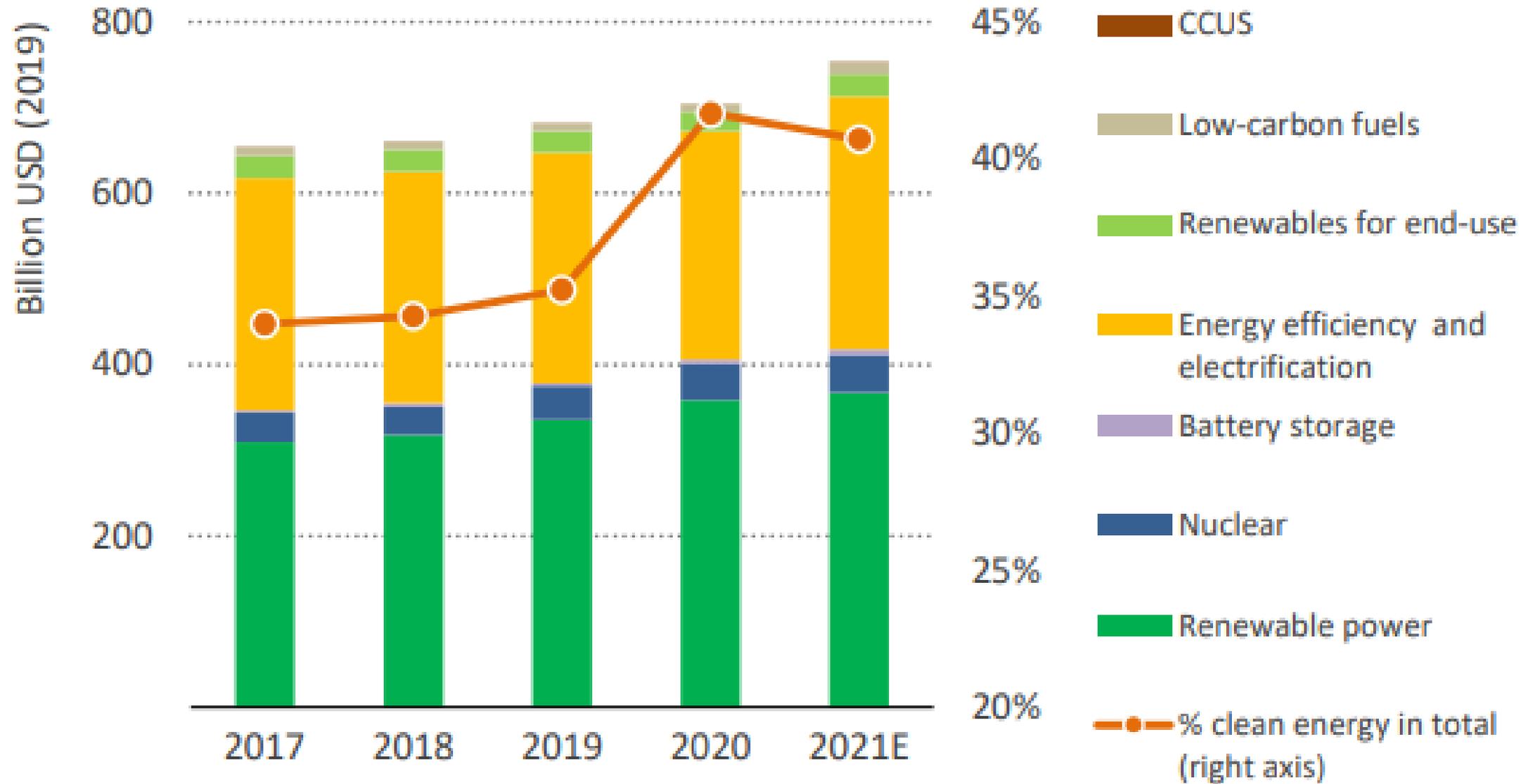
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Global investment in clean energy and energy efficiency, 2017-2021



What attributes makes a Building “Green”?



New Energy Systems

- EV's and other alternative fuel vehicles
- Dockless electric bikes and scooters
- Densification



Site



Façade Features

- Out-of-Plane Geometry
- Solar Radiance Concentration



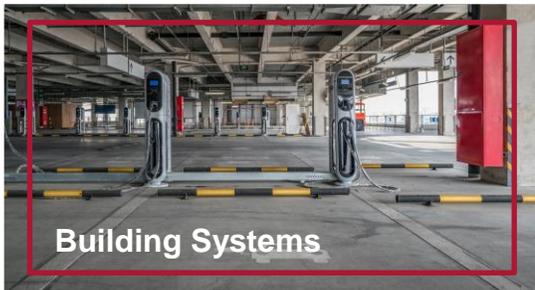
Alternate Energy Sources

- Energy Storage Systems
- Photovoltaic (PV) Panel Systems
- Building Integrated Photovoltaics (BIPV)
- Solar Concentrators



Exterior Materials & Systems

- Façade and Wall Systems
- Timber Façades
- Organic Insulation Types
- Non-traditional window framing members
- Green Walls and Roofs
- Ultra-high-performance concrete
- Double Skin Façades



Building Systems

- EV Charging Infrastructure
- Heat Pumps



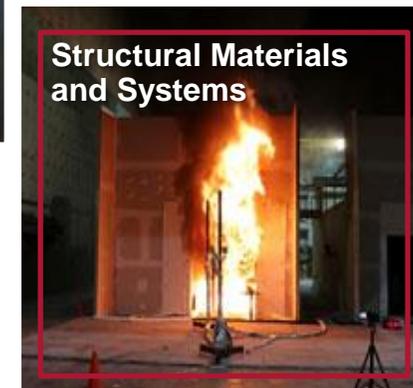
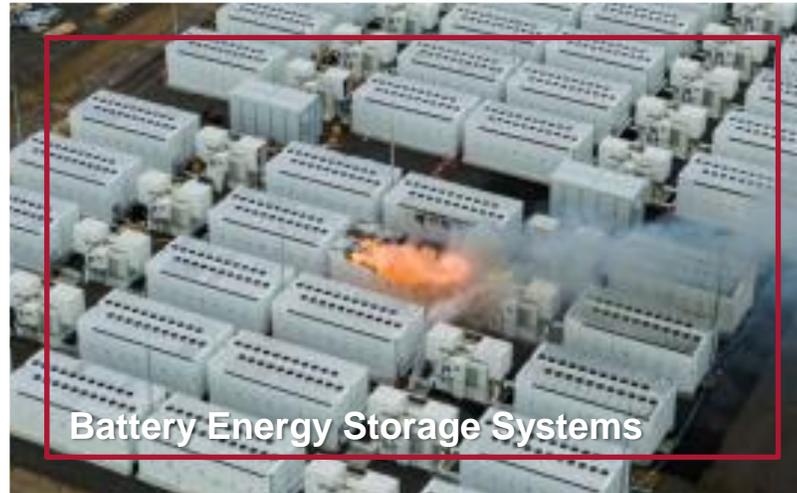
Structural Materials and Systems

- Lightweight/engineered lumber systems
- Mass Timber Construction
- Carbon Fiber Composites
- Fiber Reinforced Concrete
- Ultra-high-performance concrete
- Additive manufacturing (3D printing)
- Modular construction



What does this mean for fire safety?

Fire Safety Challenges



Thank You!

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www.nfpa.org/foundation | www.nfpa.org/ess | <https://www.nfpa.org/pvsystems>



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