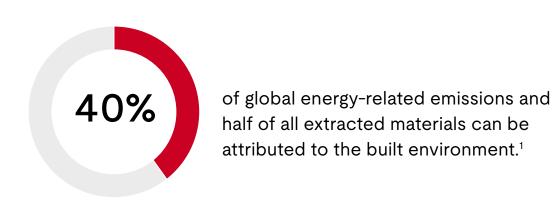


# Fire safety: Protecting the built environment for a decarbonized future



Explore buildings' critical role in global decarbonization efforts.





Demand for green buildings is expanding, driven by regulatory frameworks, consumer demand and environmental considerations.



The decarbonized built environment will be a powerful agent of change – but also home to new fire safety, interoperability and data protection challenges.

#### Risks:

- Compliance with evolving regulations
- Shift toward sustainable materials
- Integration with new technologies
- Consumer behavior changes
- Balancing sustainability with safety

### **Opportunities:**

- Reductions in greenhouse gas emissions
- Energy-efficiency increases
- Innovations in sustainable materials
- Integration of smart technologies
- Market demand for green certifications

Up to 50% of building emissions could be reduced by 2030 if sustainable practices are aggressively implemented.<sup>2</sup>

Energy-efficient technologies and practices in buildings can lead to energy savings of up to

30%-50%

vulnerability to climate change impacts and lower recovery costs by up to

Sustainable buildings can reduce

by incorporating resilient design principles.

## As we move toward this imagined future, fire safety remains at the core of maintaining built environment safety.

A holistic fire safety strategy is key for a sustainable built environment. By integrating fire safety considerations into sustainable design practices, we can create safer, more resilient and healthier spaces for current and future generations.

## Key building blocks of a holistic fire protection strategy:



## Fire prevention

Preventing fires from occurring or limiting their effects. It is often accomplished by proactively identifying potential fire hazards and mitigating fires through safety measures.

## Reaction-to-fire

approach for selecting building construction materials and contents that minimize fire spread.

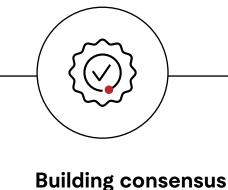
## **Detection and alarm**

Systems that detect the occurrence of fires or smoke and inform occupants or first responders to allow for

vehicle (EV) charging infrastructure or integrated PV systems. Selecting and using building materials and fire protection systems with sustainable attributes can also help the built environment achieve these goals. In addition, preventing building fires and enhancing fire protection are important to companies' overall sustainability efforts. Our experts help asset owners and building managers understand and identify safety risks through testing, inspection and certification services for electrification technology.

Modernizing the built environment requires centering safety, whether a facility adds technology such as microgrids, electric

## UL Solutions supports built environment decarbonization efforts by:



#### around standards Participating in standards

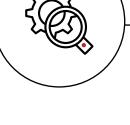
panels and industry working groups to help shape the future of safety in the built environment.

### confidence Testing, inspection and

compliance with

**Demonstrating** 

certification services to empower safer energy transition in the built environment.



1 WorldGBC outlines key positions on sustainable building policies for successful outcomes for COP29. World Green Building Council, October 31, 2024, https://worldgbc.org.

#### guidance that supports innovation Partnering with

**Providing safety** 

customers to identify vulnerabilities in the built environment, focusing on safety and sustainability.

#### and existing structures Software for asset owners and building managers to optimize

Offering tools for new

the built environment, from construction through operation.



GP25CS2068388

<sup>&</sup>lt;sup>2</sup> Net zero roadmap: A global pathway to keep the 1.5 °C goal in reach, International Energy Agency, 2024, https://www.iea.org. <sup>3</sup> Energy efficiency trends in residential and commercial buildings, U.S. Department of Energy, 2023, https://www.energy.gov.