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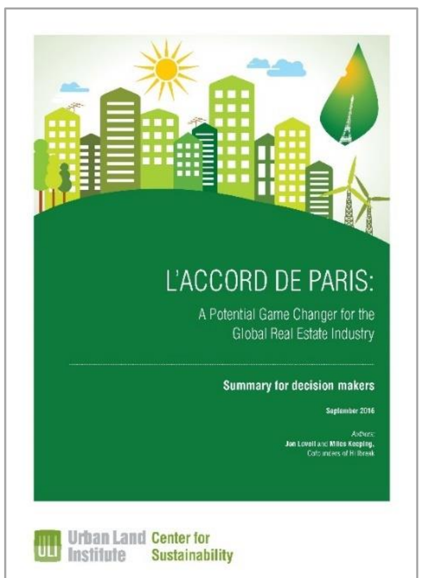
Climate Change and Real Estate Research

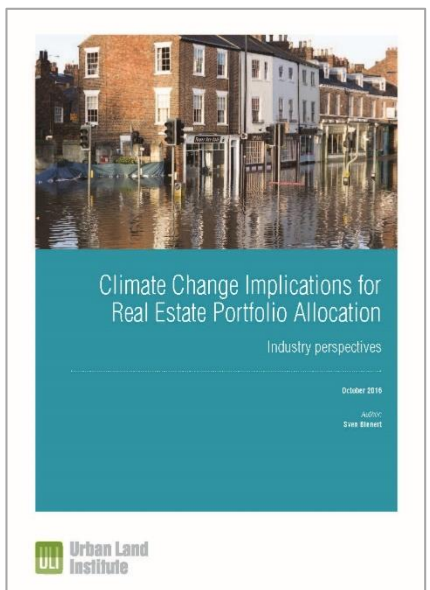
Various levels of intervention:

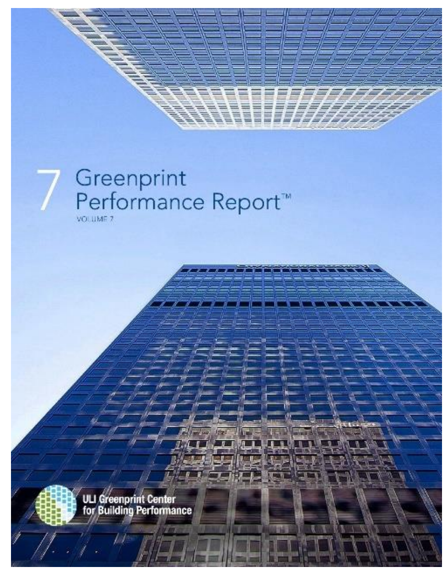
Geopolitical / Policy Level

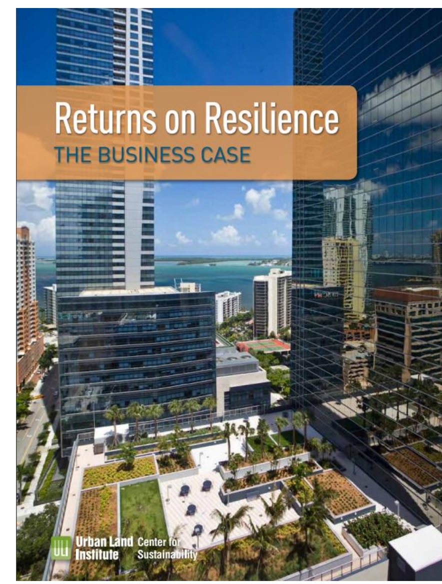
Portfolio Level

Project / Asset Level









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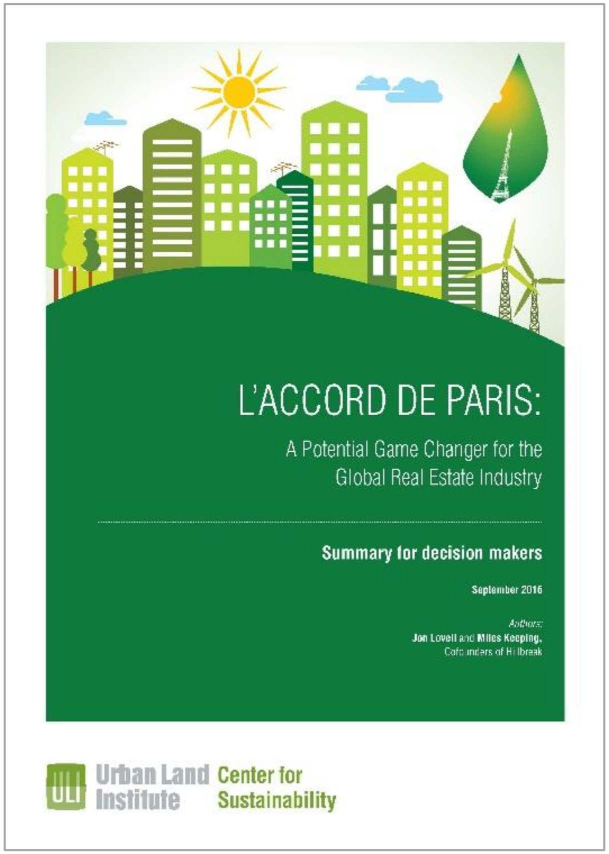
The Paris Agreement

- **Agreed to by 195 nations** at “COP-21” in Paris - December 2015
- Takes effect when **55 countries, representing 55% of emissions** ratify it
- Aims to keep global temperature rise to **no more than 2º C** over pre-industrial.

The Paper

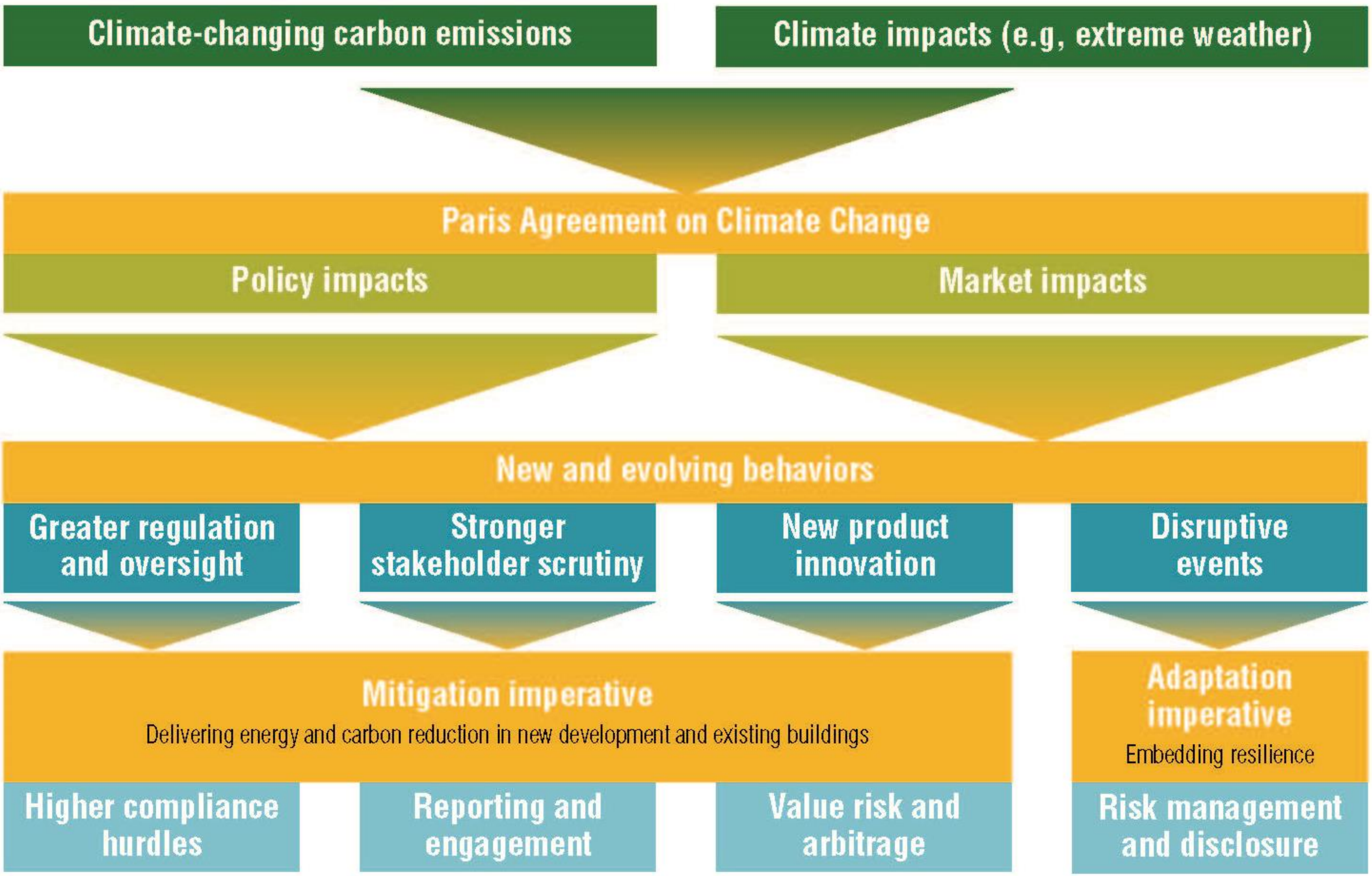


- Key elements of the Agreement and drivers of change in the post-COP-21 world;
- Opportunities for the real estate industry, how to capture them, and the risks of not doing so;
- High-level steps for real estate organizations to stay relevant and competitive post-COP-21.

"ULI's global members have a pivotal role to play in addressing some of the greatest challenges facing our rapidly urbanizing world, including the pressing threat of climate change."

- Patrick Phillips, Global CEO, Urban Land Institute

Implications for the Real Estate Industry



Where to Start: Sample Questions

- **Climate risk**
- **Client and stakeholder expectations**
- **Competitor approaches**
- **Policy change**
- **Asset performance**
- **Value chain**
- **People/processes**

- *What climate hazards are our assets and our core operations exposed to? How resilient are we to the potential physical and financial impacts of those hazards?*
- *What are our peers and competitors doing, and what benefits do they get from their actions?*
- *What opportunities do we have to deliver energy and carbon reduction programs on our assets? What should our goals, targets, and priorities be in this regard?*

How do your holdings contribute to climate change?
How do your holdings stand to be impacted by climate change or efforts to address it?
What can you do to address both?

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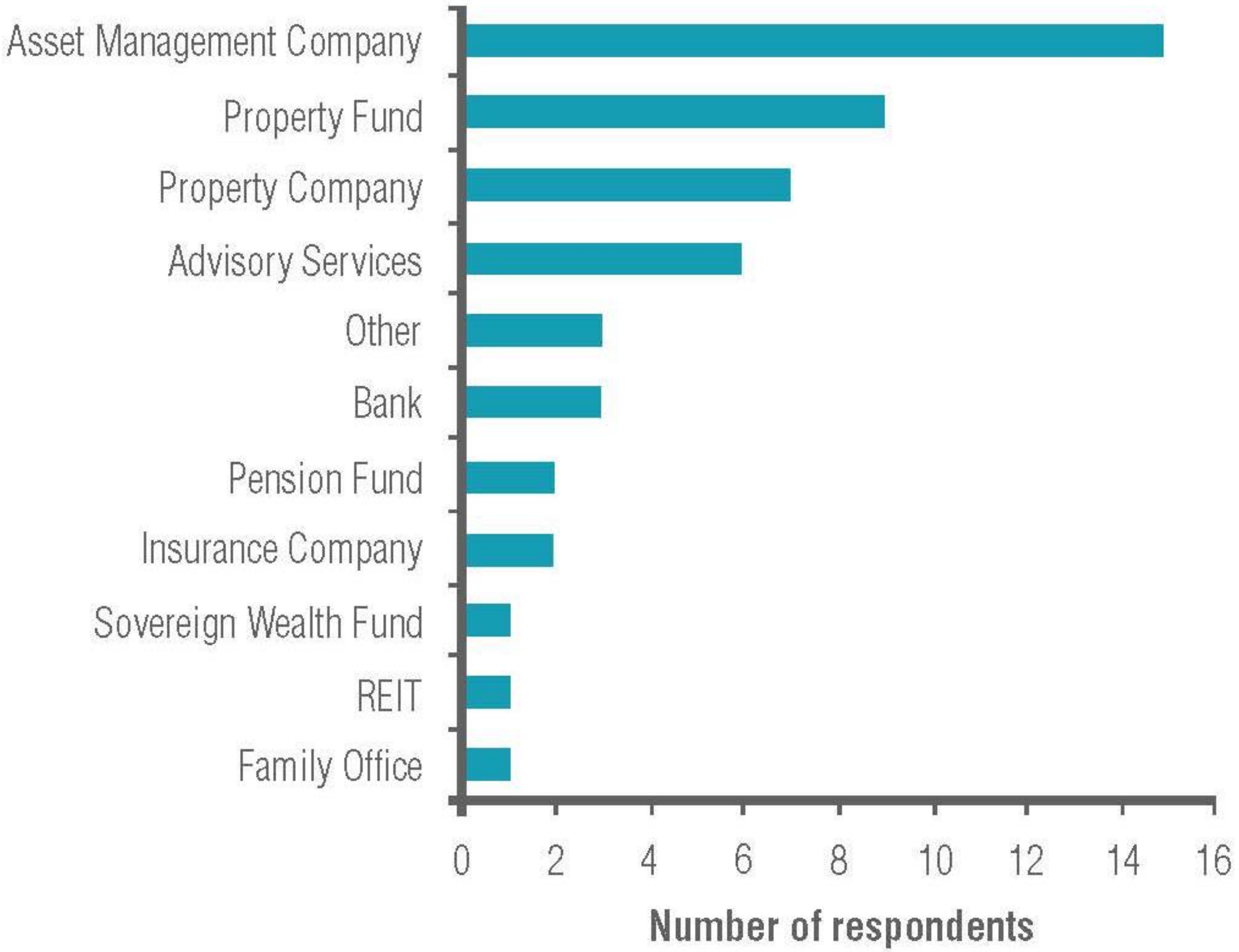
Investor Research

- Possible timescale mismatches
- Mixed views of climate impacts
- Viewed as having primarily asset-level impacts
- Risk assessments are being done, but mostly simply
- Some investments are being made, but there are gaps
- Expertise gap may exist
- Market rewards for climate action are still weak

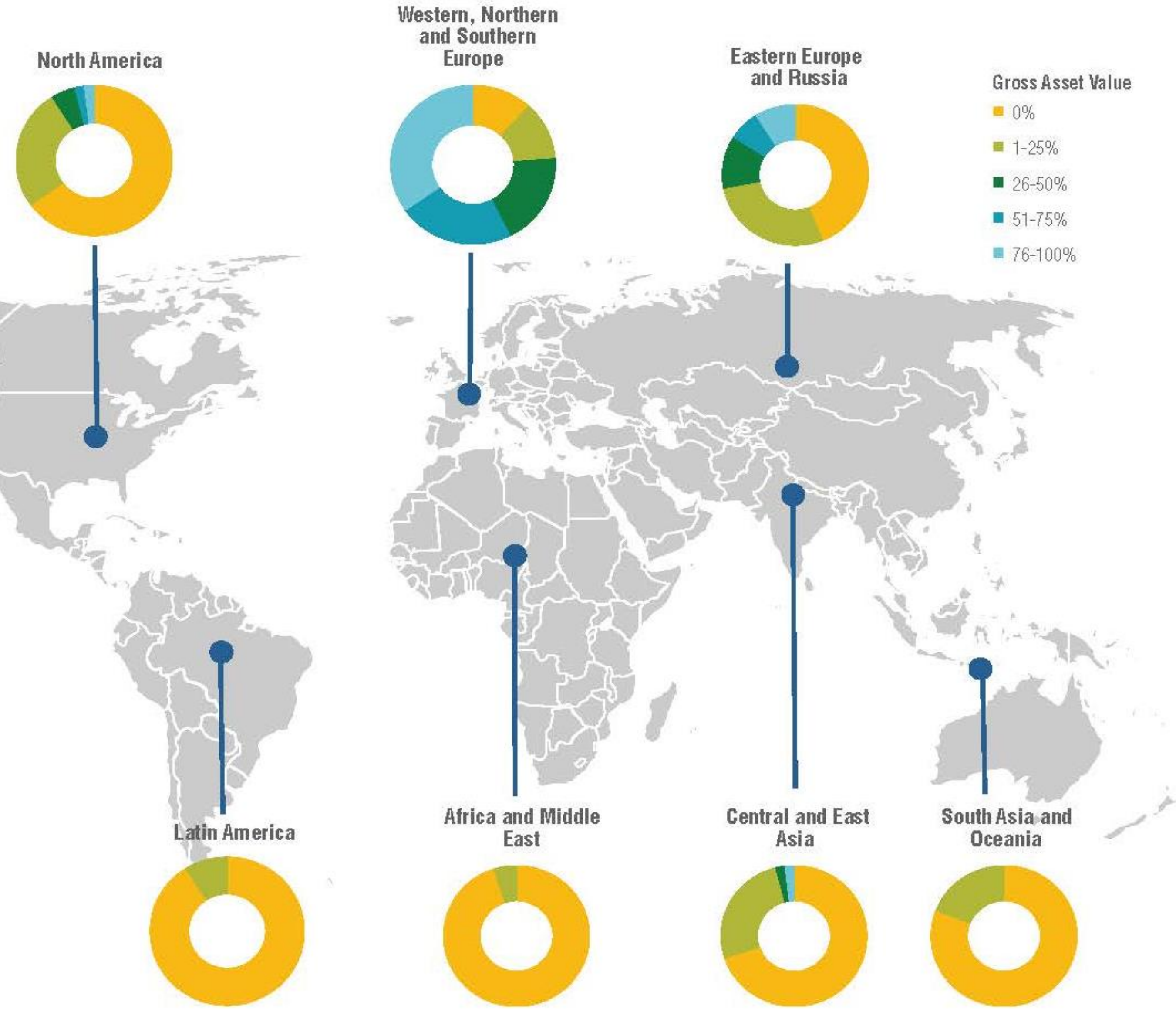
Respondent Profile: Business Activity



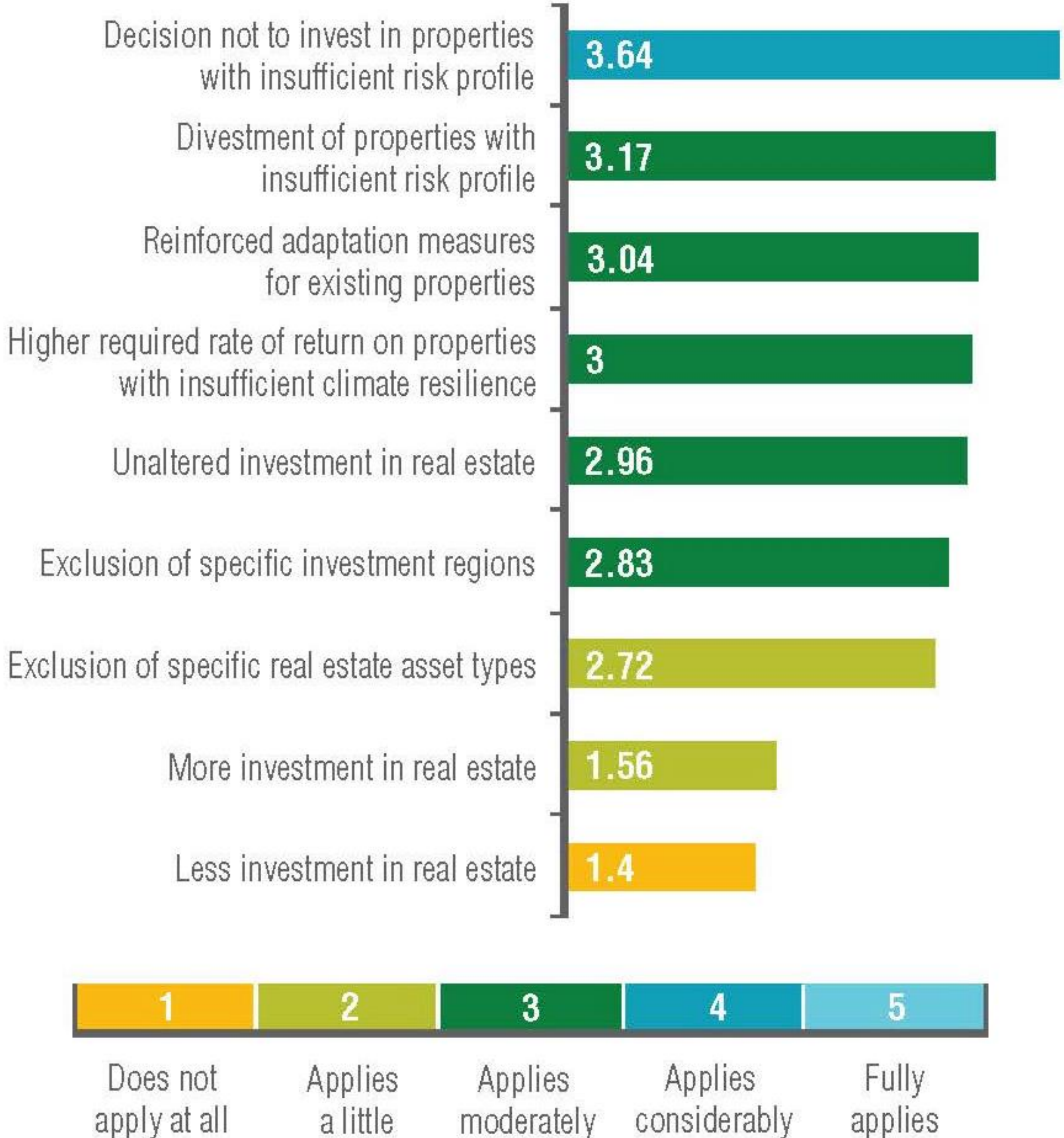
- 50 respondents
- Senior Executives

Respondent Profile: Regional Focus

- Respondents are primarily invested in Europe, especially Western, Northern and Southern
- Respondents' portfolios have limited focus on the southern hemisphere

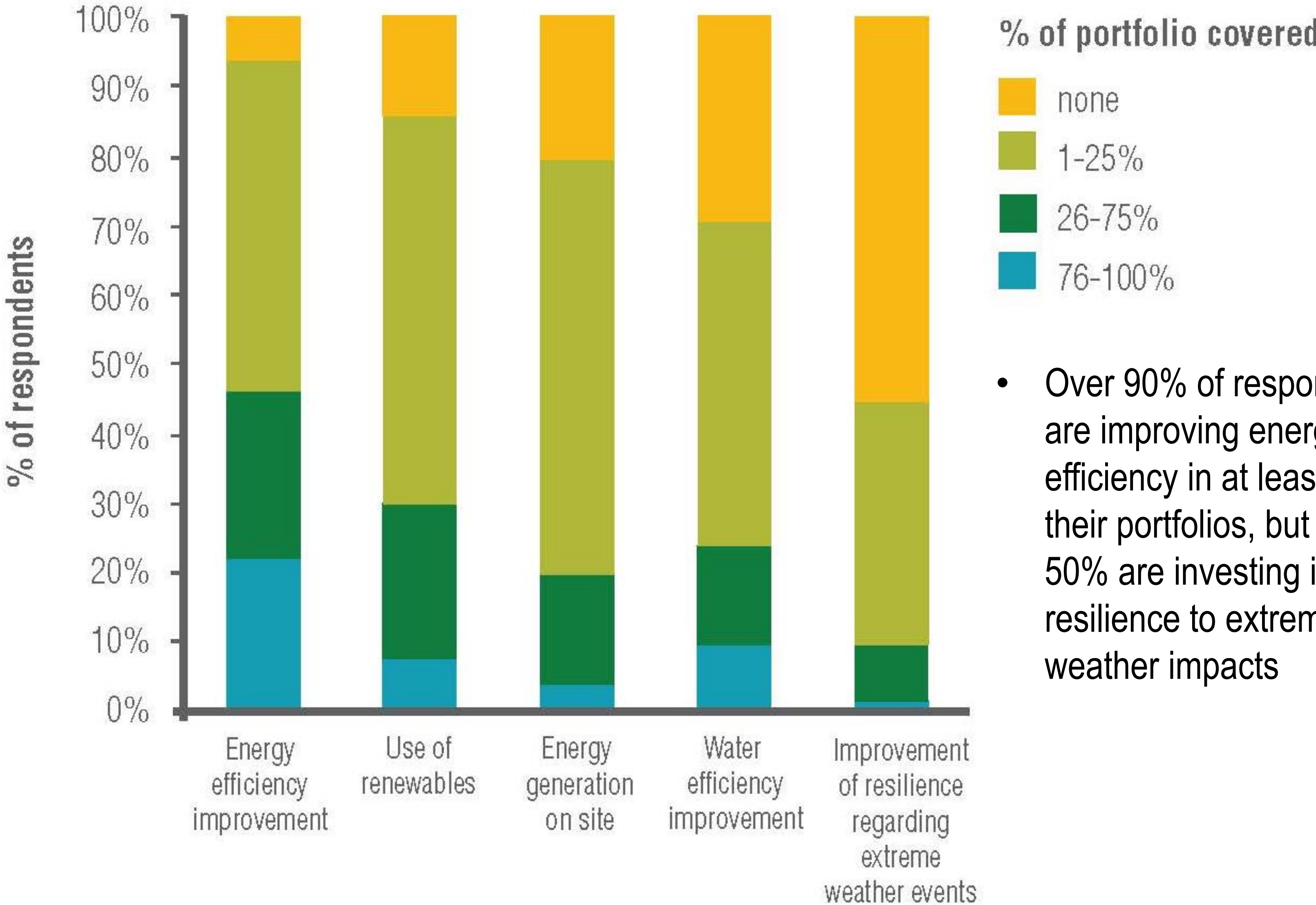


Anticipated Business Implications



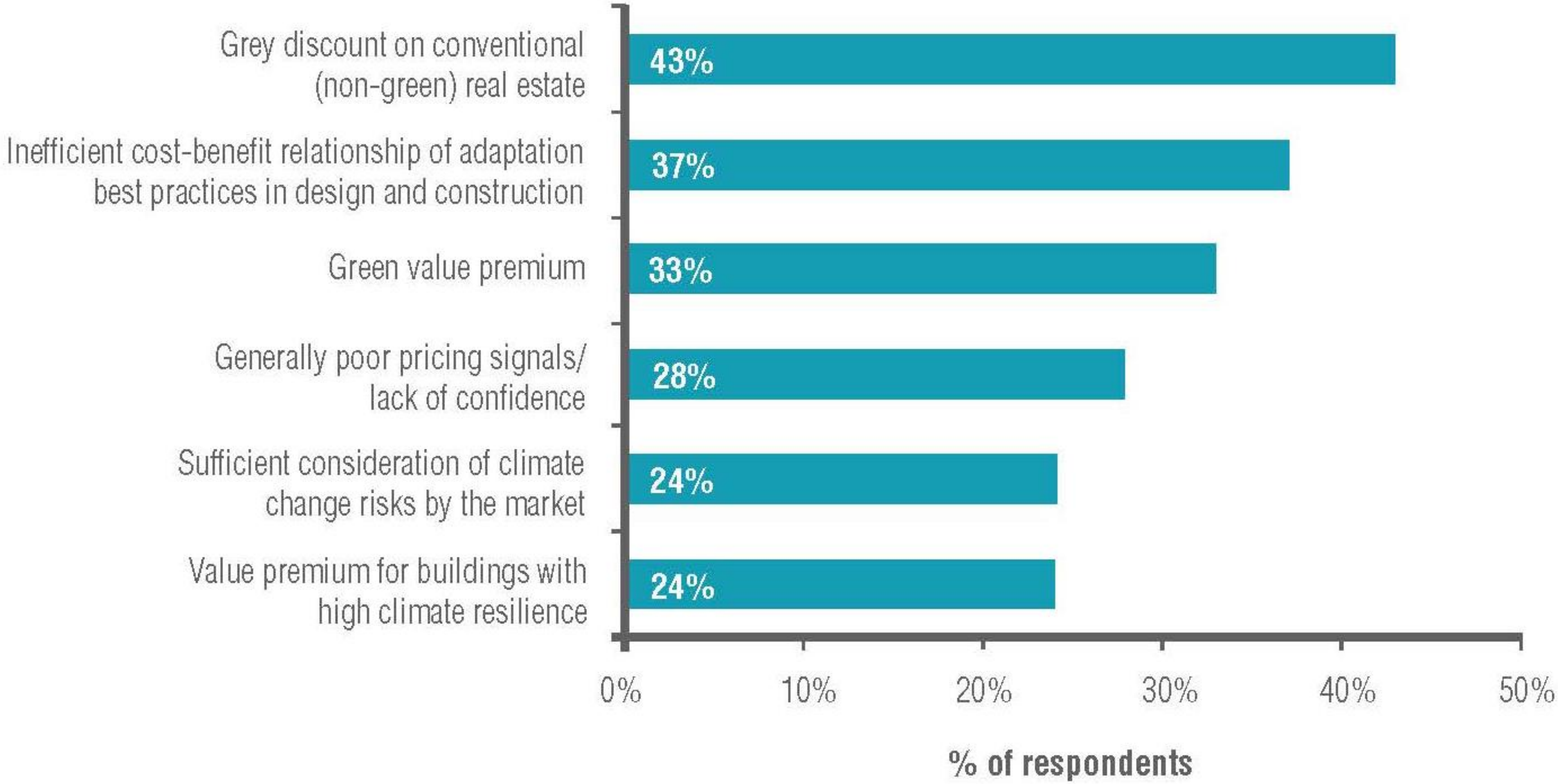
- Most respondents do not see any major change in their investment levels in real estate
- Wholesale exclusion of investments in certain regions is less likely than changes in investment strategy for individual buildings

Property Improvements



- Over 90% of respondents are improving energy efficiency in at least some of their portfolios, but less than 50% are investing in resilience to extreme weather impacts

Market Observations



- Some market trends to encourage more sustainable buildings, but there are areas where the market signal is still weak

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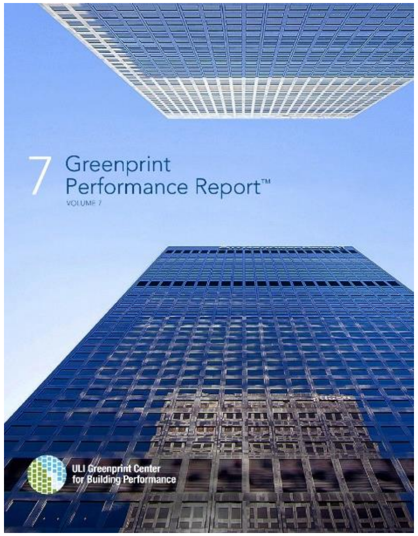
Greenprint vol. 7 Report



5,414 Properties In the Greenprint benchmark

1.32 Billion Sq. Feet Covered by Greenprint buildings

Over €37M (US $42M) Annual energy and water cost savings

2009-2015 Results

ENERGY CONSUMPTION

energy

-13.7%

2009: 5,031 million kWh
2015: 4,340 million kWh
973 properties

CO_2e EMISSIONS

carbon

-16.5%

2009: 1,951 thousand mt
2015: 1,630 thousand mt
973 properties

COST

energy spend

-12.8%

2009: $313 million (€245 million)
2015: $273 million (€246 million)
733 properties

Greenprint vol. 7 Report

Best Practices

Energy **Water** **Waste**

Trends

- Tenant engagement is the next frontier
- Embedding sustainability in the investment process
- Health and wellness are attracting more attention
- Technology is evolving
- Interest in net-zero energy buildings is increasing

Returns on Resilience

Print report

- www.uli.org/returnsonresilience
- Office, housing, institution, resort, mixed
- Various climate threats and strategies
- **Focus: value-creation strategies**

Web platform

- returnsonresilience.uli.org
- New case studies to come
- Resource library
- Propose case studies, or request the report: resilience@uli.org