

PCI

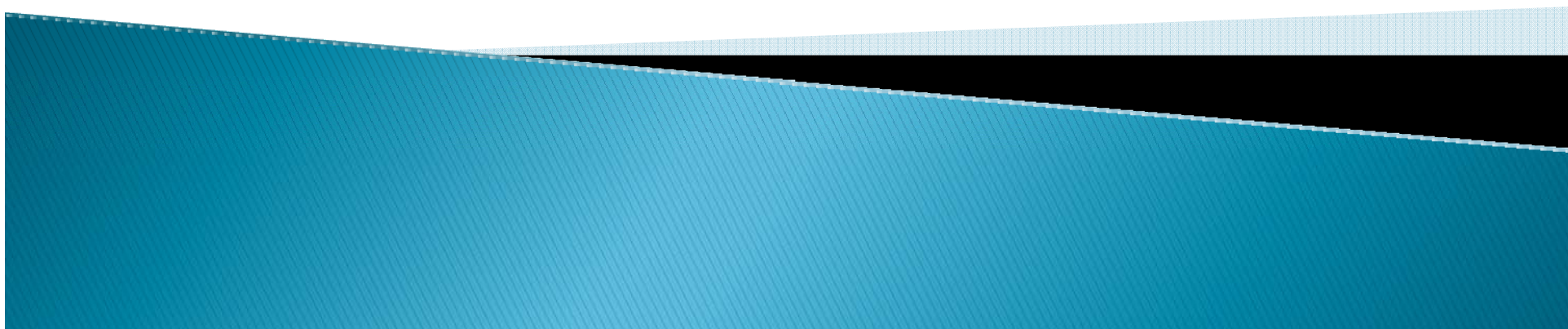
Property Casualty Insurers
Association of America
Shaping the Future of American Insurance

Joint Marketing and Underwriting Seminar

April 3 – 5, 2011 | Las Vegas, Nevada

SHOW ME THE GREEN

Green construction and its effect on the
insurance industry

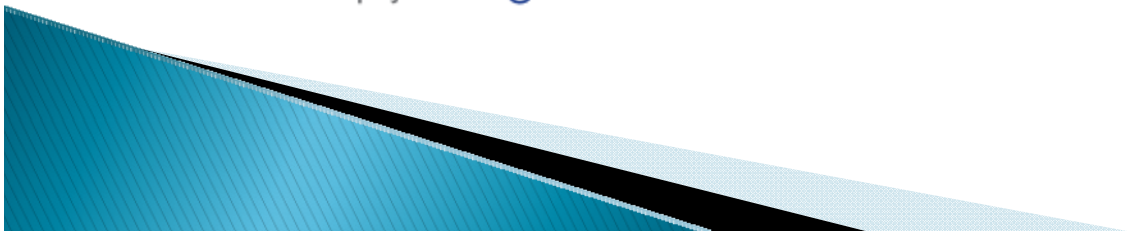


Presenters

- ▶ Stephen G. Bushnell
Fireman's Fund
Insurance Co



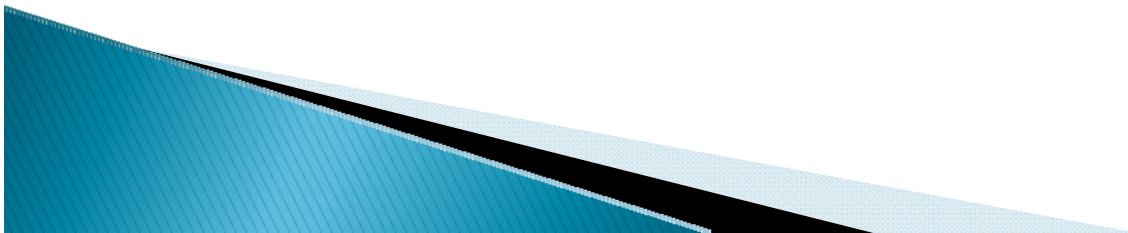
- ▶ Stephen C. Clarke
Insurance Services
Office, Inc.



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Today's Agenda

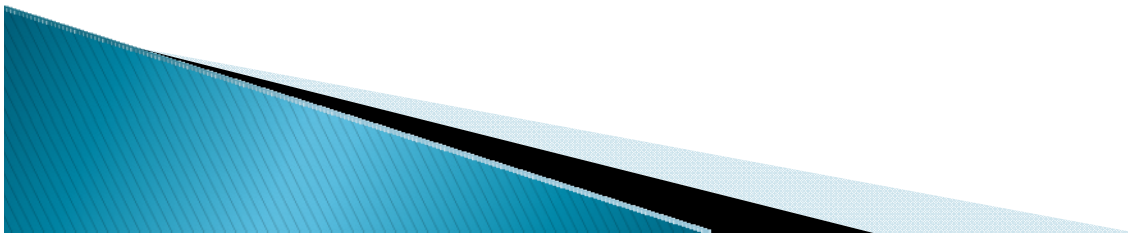
- ▶ Why is the insurance industry interested?
- ▶ Impact of buildings on the Environment
- ▶ What is a green building?
- ▶ Underwriting Benefits and Coverage Concerns
- ▶ ISO's Green Building Upgrade
- ▶ Emerging Green Risks



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Why is the insurance industry interested?

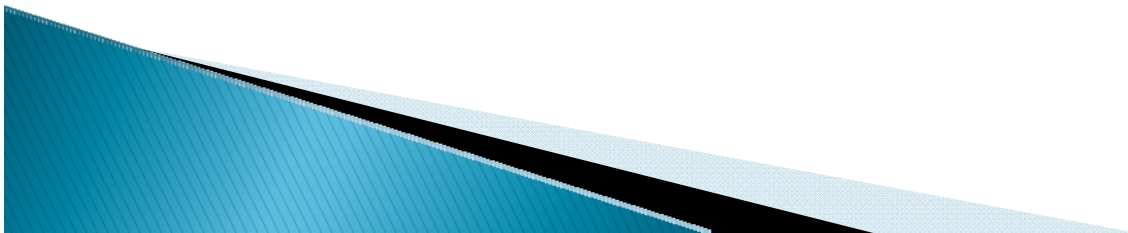
- ▶ Insurance industry has historically taken leading role in new trends in technology and safety
- ▶ Customer demand
- ▶ Regulatory Compliance
 - Corporate Governance
 - Building Codes
- ▶ Intersection of Green and Risk Management



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Climate change poses tremendous risks to the insurance industry.

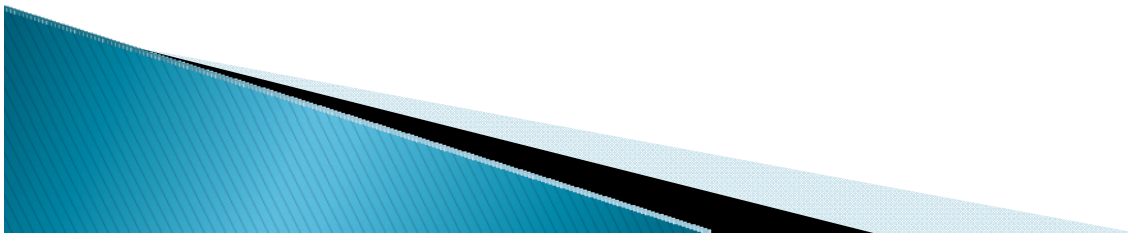
- ▶ Hurricane
- ▶ Flood
- ▶ Drought
- ▶ Wild Fire
- ▶ Changing weather patterns
- ▶ Ocean acidification
- ▶ Not predictable, models don't capture risks
- ▶ Population moving into at risk areas



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Fireman's Fund Insurance developed the first Green Building insurance coverage in the world in 2006

- ▶ **Other US Insurers followed in 2008 – 2010**



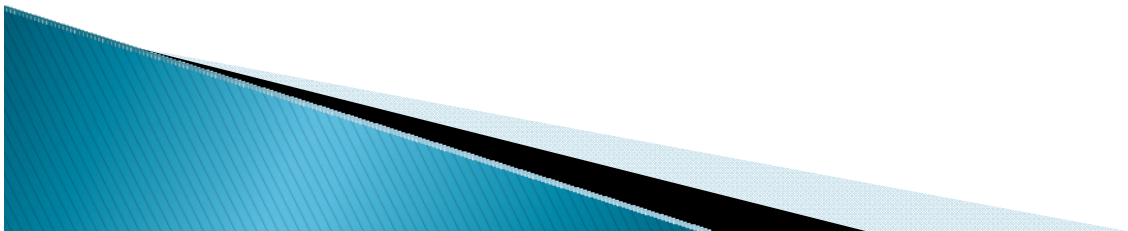
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Why is the insurance industry interested in Green Coverages?

- ▶ Profound value proposition; businesses can improve cash flow, operating income and asset value by going green
- ▶ Green Buildings and Sustainable Practices have become powerful business drivers

“Greening your business is more important now than ever. At its core, green is about doing more with less, which can save you money quickly. It also frees up capital to invest in building a stronger, more resilient company – one ready to take the lead from slower moving competitors.”

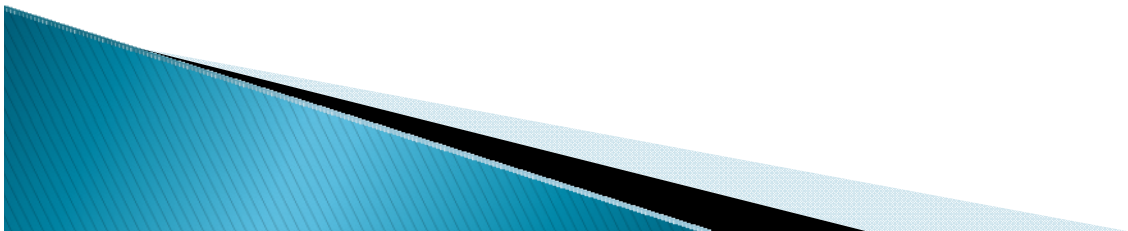
Andrew Winston, Green Recovery, Harvard Business Press, 2009



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Green Economic Value Proposition

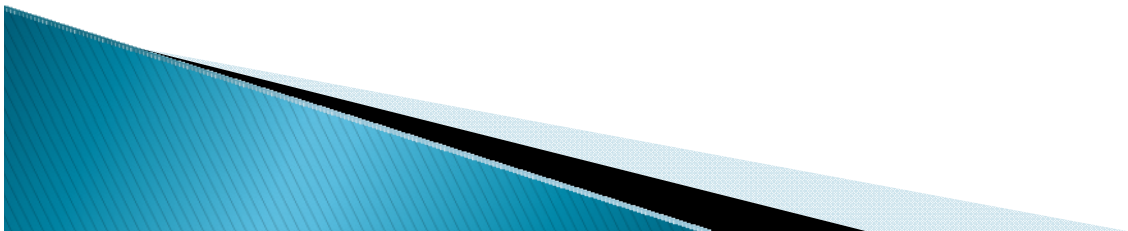
- Green buildings typically use 30% less energy. With alternative power devices can be close to net zero
- Significant energy savings can be realized at no or little cost through proactive facility management
- A 30% reduction in energy use results in a 5% increase in NOI (EPA data)
- Studies document
 - Higher rents for green space
 - Faster lease out and higher occupancy rates
 - Satisfied tenants
 - Higher resale value



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Green Economic Value Proposition

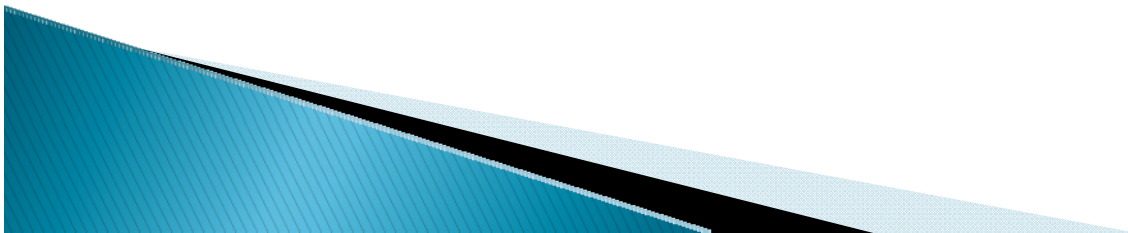
- Improved indoor air quality, HVAC systems and daylighting in buildings results in reduced absenteeism and (perhaps) higher productivity
- Green buildings use sustainable, recycled and healthy (low VOC) materials
- Retail
 - Documented sales increases in green space (up to 40% increase)
 - Wal-Mart
- Schools
 - Documented increase in student test scores in green buildings



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Green Economic Value Proposition

- ▶ Lower operating costs = Higher asset Value
- ▶ Tenant demand = Enhanced revenue stream
- ▶ Healthy IEQ = Increased productivity
- ▶ Lower energy and water costs = strong bottom line
- ▶ Green retail = Higher sales
- ▶ Government and utility incentives
 - Tax breaks
 - Utility rebates
 - Expedited permitting
- ▶ Government mandates



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Why is the insurance industry interested in Green Coverages?

Green coverages enhance our reputation as a differentiator and position us to grow

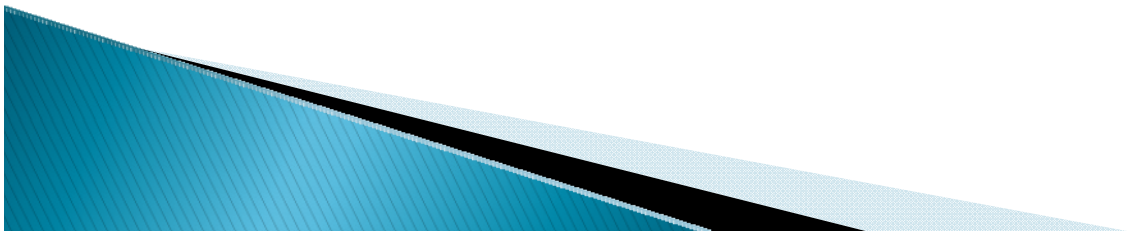
Green Market Opportunities

6000+ LEED buildings

12000+ Energy Star buildings

Green upgrade of existing buildings

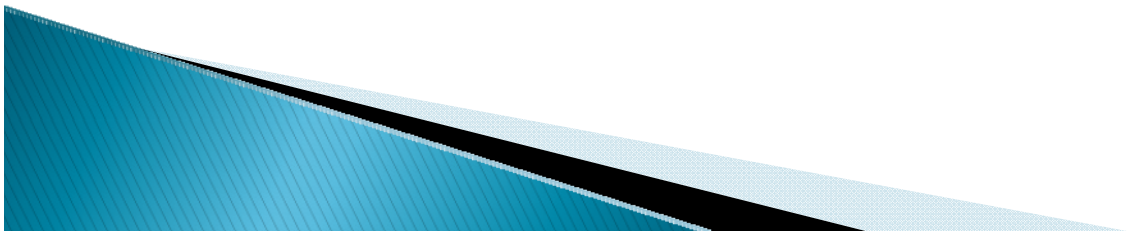
Impact of 30% energy reduction in 5 million commercial buildings and 160 million households



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Why is the insurance industry interested in Green Coverages?

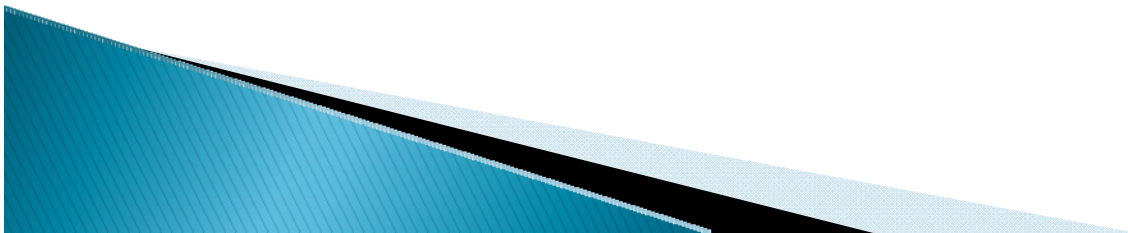
- ▶ Green Buildings are better risks.
 - Commissioning addresses leading causes of property losses
 - Pride of ownership
 - Underwriting results
- ▶ Walking the talk
 - Major facilities LEED Certified
 - CO2 footprint reduction



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Impact of buildings on the Environment
Worldwide, Buildings Account For

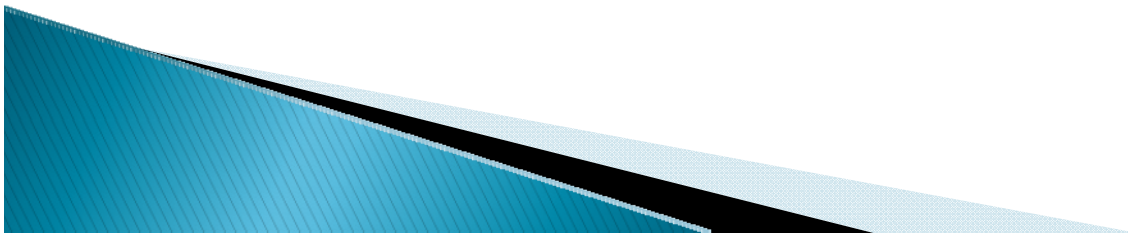
- ▶ 17% of fresh water withdraws
- ▶ 25% of wood harvest
- ▶ 33% of CO₂ emissions
- ▶ 40% of material and energy usage



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US Buildings' Impact on Resources

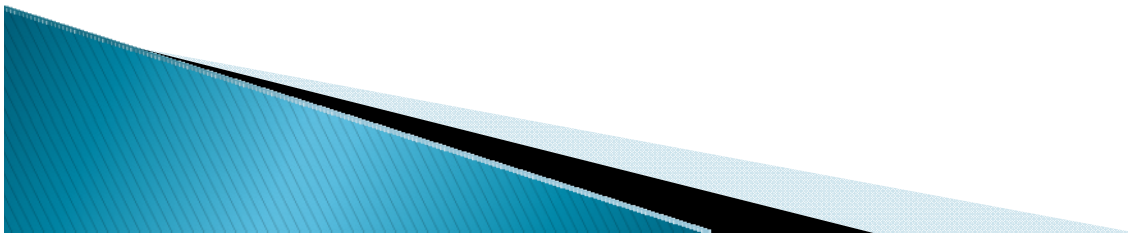
- ▶ 39% of total energy consumption
- ▶ 71% of electricity consumption
- ▶ 39% CO₂ emissions
- ▶ 30% of raw material usage
- ▶ 30% of waste output
- ▶ 12% of potable water consumption



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What is a green building?

- ▶ Site Planning
- ▶ Water Management
- ▶ Energy Efficient Systems
- ▶ Material Use
- ▶ Indoor Environmental Quality
- ▶ Weighing consequences before taking actions



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The LEED Rating System

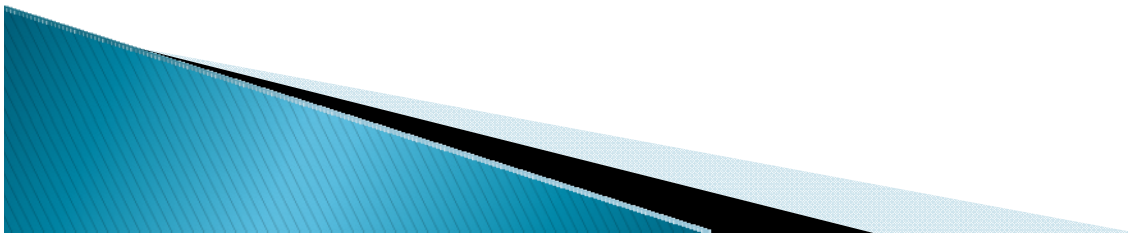
- ▶ LEED has four rating levels – from Certified (lowest level), to Silver, to Gold and thence Platinum (highest)



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Innovation in Certification Levels

- ▶ Certified – requires no innovation
- ▶ Silver – requires maximum levels of credit achievement in at least two credit areas
- ▶ Gold – requires innovation in some credit areas
- ▶ Platinum – Requires innovation in several credit areas to achieve rating

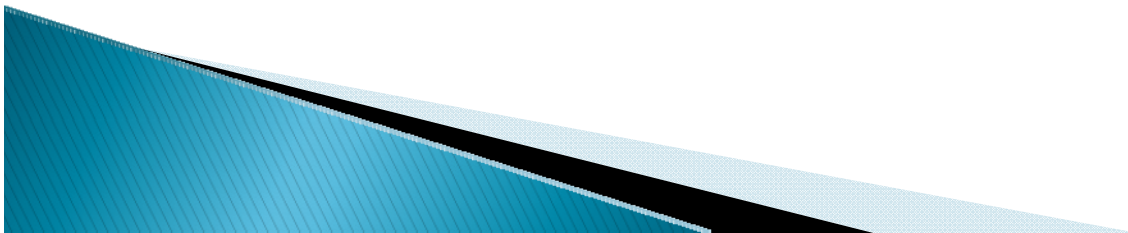


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LEED Standards

- ▶ New construction
- ▶ Core and shell development
- ▶ Existing buildings : operations and maintenance
- ▶ Commercial interiors
- ▶ Homes
- ▶ Healthcare, Schools, Retail
- ▶ Neighborhood development

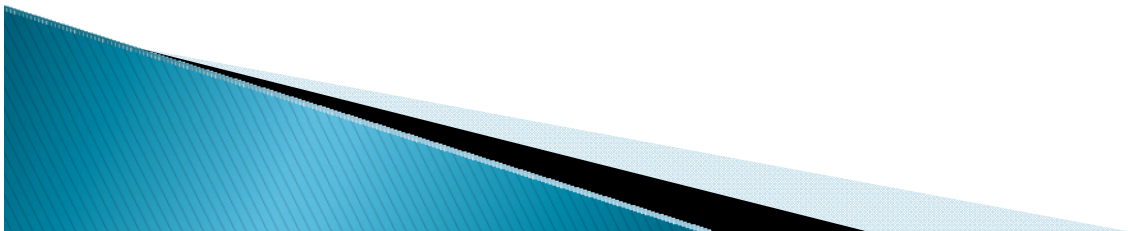
Design → Construction → Operations



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U.S. Green Building Council New Construction and Major Renovations Project Checklist

- ▶ **Sustainable Sites – (26 possible points)**
- ▶ Prerequisite 1 Construction Activity Pollution Prevention Required
- ▶ Credit 1 Site Selection 1
- ▶ Credit 2 Development Density and Community Connectivity 5
- ▶ Credit 3 Brownfield Redevelopment 1
- ▶ Credit 4.1 Alternative Transportation—Public Transportation Access 6
- ▶ Credit 4.2 Alternative Transportation—Bicycle Storage and Changing Rooms 1
- ▶ Credit 4.3 Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles 3
- ▶ Credit 4.4 Alternative Transportation—Parking Capacity 2
- ▶ Credit 5.1 Site Development—Protect or Restore Habitat 1
- ▶ Credit 5.2 Site Development—Maximize Open Space 1
- ▶ Credit 6.1 Stormwater Design—Quantity Control 1
- ▶ Credit 6.2 Stormwater Design—Quality Control 1
- ▶ Credit 7.1 Heat Island Effect—Nonroof 1
- ▶ Credit 7.2 Heat Island Effect—Roof 1
- ▶ Credit 8 Light Pollution Reduction 1



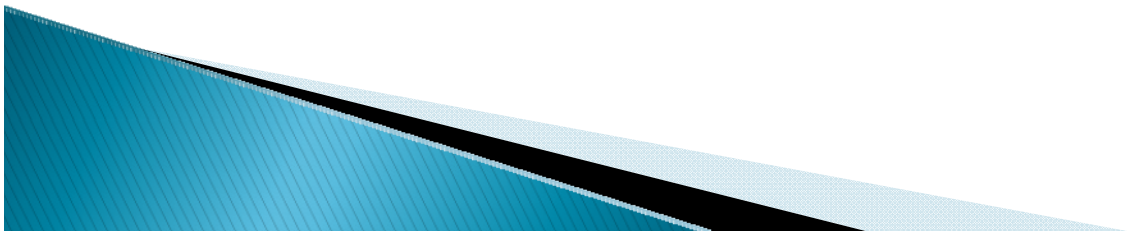
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▶ Water Efficiency (10 possible points)

- Prerequisite 1 Water Use Reduction Required
- Credit 1 Water Efficient Landscaping 2-4
- Credit 2 Innovative Wastewater Technologies 2
- Credit 3 Water Use Reduction 2-4

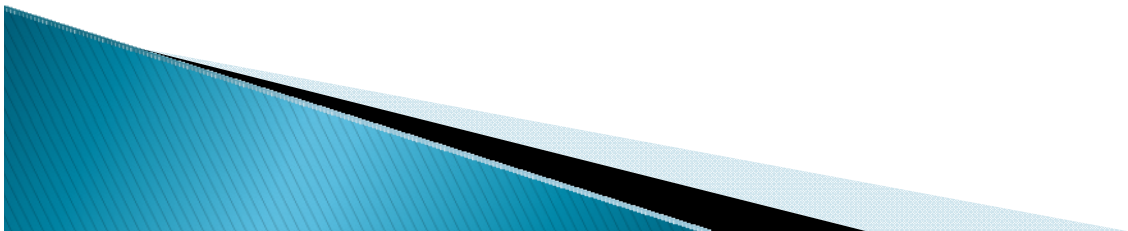
▶ Energy and Atmosphere (35 possible points)

- Prerequisite 1 Fundamental Commissioning of Building Energy Systems Required
- Prerequisite 2 Minimum Energy Performance Required
- Prerequisite 3 Fundamental Refrigerant Management Required
- Credit 1 Optimize Energy Performance 1-19
- Credit 2 On-site Renewable Energy 1-7
- Credit 3 Enhanced Commissioning 2
- Credit 4 Enhanced Refrigerant Management 2
- Credit 5 Measurement and Verification 3
- Credit 6 Green Power 2



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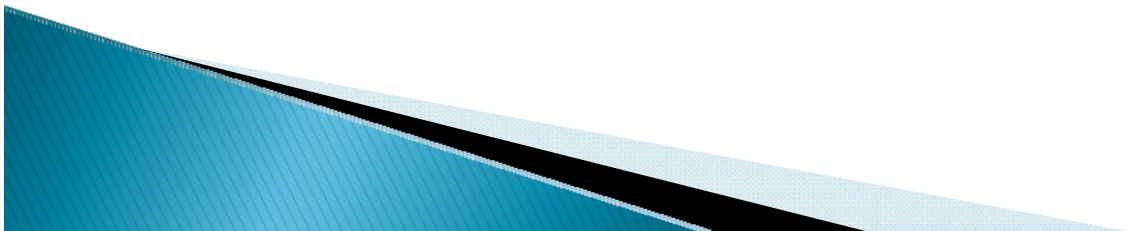
- ▶ **Materials and Resources (14 possible points)**
 - Prerequisite 1 Storage and Collection of Recyclables Required
 - Credit 1.1 Building Reuse—Maintain Existing Walls, Floors and Roof 1–3
 - Credit 1.2 Building Reuse—Maintain Existing Interior Nonstructural Elements 1
 - Credit 2 Construction Waste Management 1–2
 - Credit 3 Materials Reuse 1–2
 - Credit 4 Recycled Content 1–2
 - Credit 5 Regional Materials 1–2
 - Credit 6 Rapidly Renewable Materials 1
 - Credit 7 Certified Wood 1



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▶ Indoor Environmental Quality (15 Possible Points)

- Prerequisite 1 Minimum Indoor Air Quality Performance Required
- Prerequisite 2 Environmental Tobacco Smoke (ETS) Control Required
- Credit 1 Outdoor Air Delivery Monitoring 1
- Credit 2 Increased Ventilation 1
- Credit 3.1 Construction Indoor Air Quality Management Plan—During Construction 1
- Credit 3.2 Construction Indoor Air Quality Management Plan—Before Occupancy 1
- Credit 4.1 Low-Emitting Materials—Adhesives and Sealants 1
- Credit 4.2 Low-Emitting Materials—Paints and Coatings 1
- Credit 4.3 Low-Emitting Materials—Flooring Systems 1
- Credit 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products 1
- Credit 5 Indoor Chemical and Pollutant Source Control 1
- Credit 6.1 Controllability of Systems—Lighting 1
- Credit 6.2 Controllability of Systems—Thermal Comfort 1
- Credit 7.1 Thermal Comfort—Design 1
- Credit 7.2 Thermal Comfort—Verification 1
- Credit 8.1 Daylight and Views—Daylight 1
- Credit 8.2 Daylight and Views—Views 1



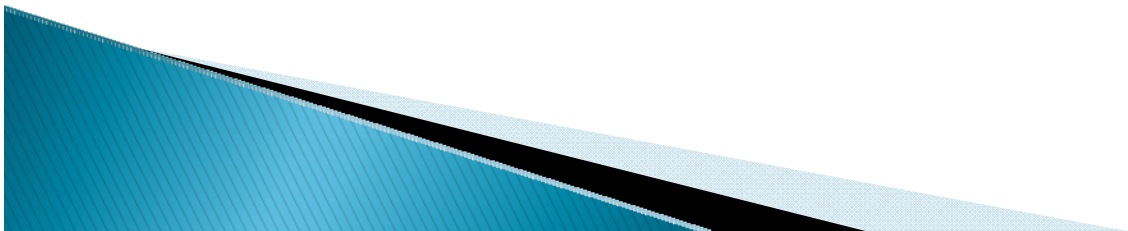
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▶ Innovation in Design (6 Possible Points)

- Credit 1 Innovation in Design 1-5
- Credit 2 LEED Accredited Professional 1

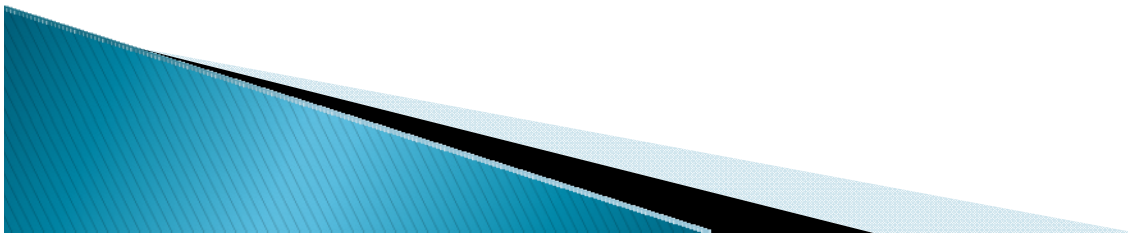
▶ Regional Priority (4 Possible Points)

- Credit 1 Regional Priority 1-4



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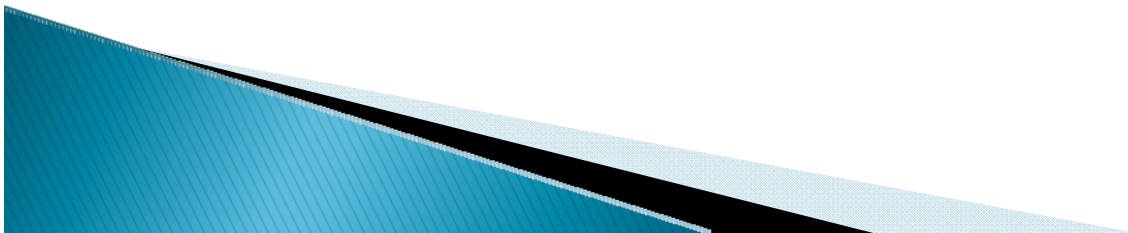
- ▶ 100 base points
 - 6 bonus points possible for Innovation in Design
 - 4 bonus points possible for Regional Priority
- ▶ Certified 40–49 points
- ▶ Silver 50–59 points
- ▶ Gold 60–79 points
- ▶ Platinum 80 points and above



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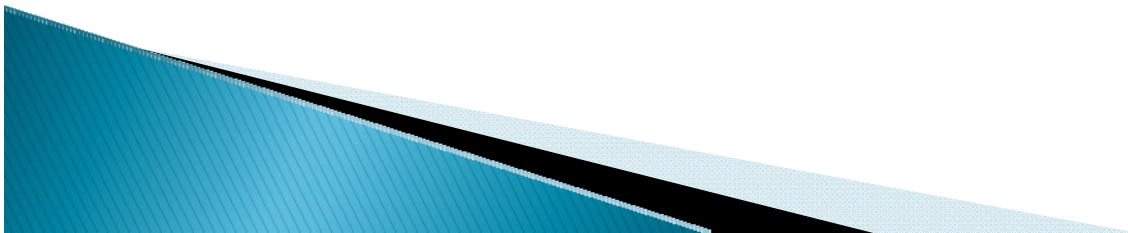
Underwriting Benefits and Coverage Concerns

- ▶ Commissioning
 - Ensures electrical, HVAC and plumbing systems are working at high efficiency
- ▶ Energy-efficiency:
 - Less heat and reduces fire hazard
- ▶ Panels containing cement:
 - Reduce amount of wood needed
 - Resistant to mold, wind, earthquake
- ▶ Energy-efficient windows:
 - Resist shattering from heat and resist breakage by thieves



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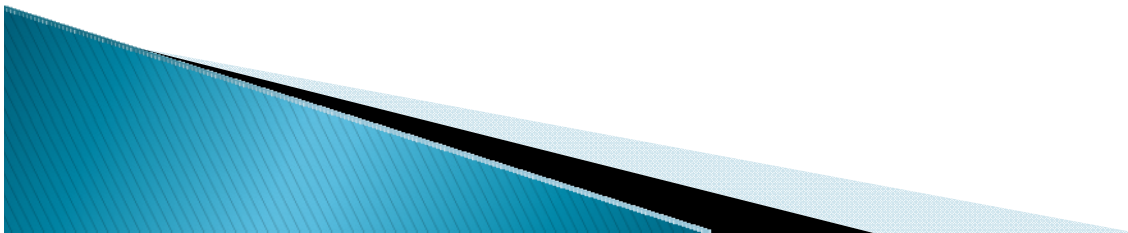
- ▶ Grid-independent power systems:
 - Limit business interruptions
- ▶ High-efficiency/dry fixtures (composting toilets and occupant sensors):
 - Reduce water pipes bursting/sewer back-ups
- ▶ Vegetative rooftops:
 - Reduce energy consumption needs for cooling building interiors
- ▶ Low volatile organic compound paints/adhesives:
 - Improve indoor air quality



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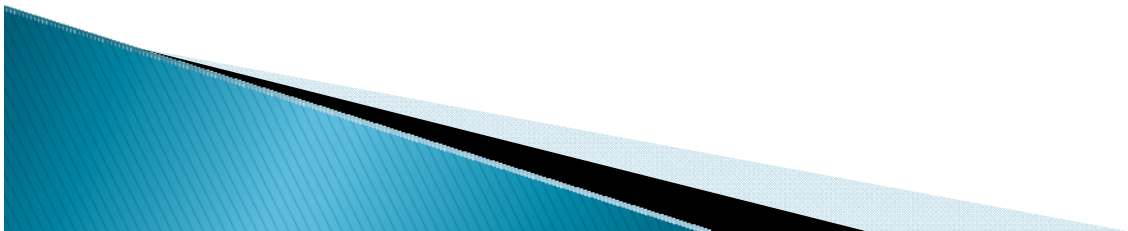
Coverage Concerns

- ▶ Vegetative rooftops:
 - Dry during drought, increasing potential fire hazard
 - Increased risk of water damage and mold
 - Replacement after loss can be expensive
 - Vermin damage/wind resistance/maintenance
 - Weight of the roof, soil, containers, plants – especially when saturated – could lead to collapse
- ▶ Alternative water and energy systems:
 - Difficult to value due to new materials and technologies
- ▶ Green construction products/techniques:
 - Are relatively new and may be viewed as unproven
- ▶ Better building ventilation
 - Could draw in excessive moist air in humid climate increasing exposure to mold



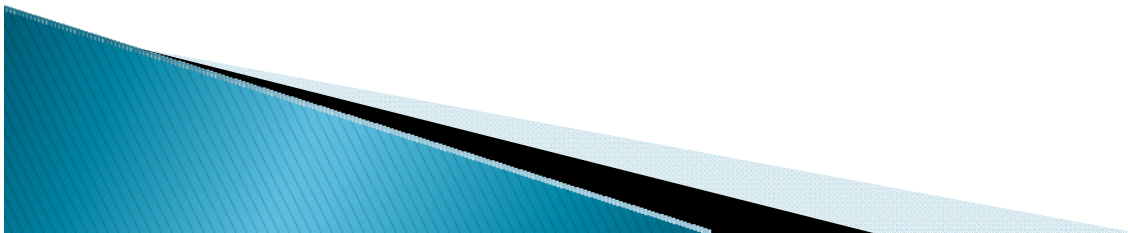
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- ▶ Lack of availability of green products due to increased demand could lead to project delays
 - Loss of use
 - Business interruption
 - Business income expense
 - Extra expense
- ▶ Waste reuse and disposal
 - Implications on debris removal coverage
- ▶ Ordinance or law
 - Partial vs. total loss



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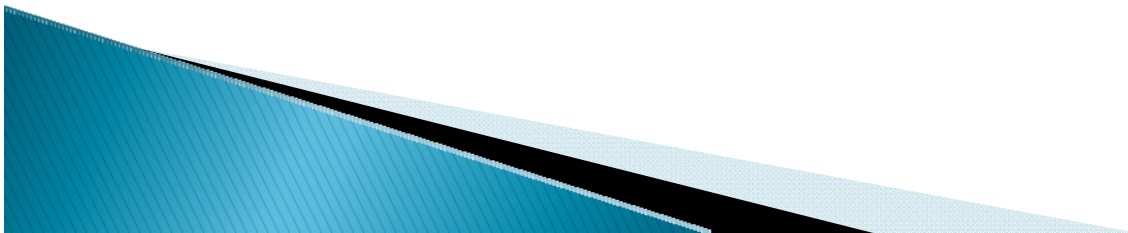
- ▶ It's Green Today, but....
 - Certification is currently done only when project is completed
 - There are no milestone checkpoints down the road to ensure continued compliance
 - Green buildings can be sold to non-green buyers
 - Standards continue to evolve as technology develops



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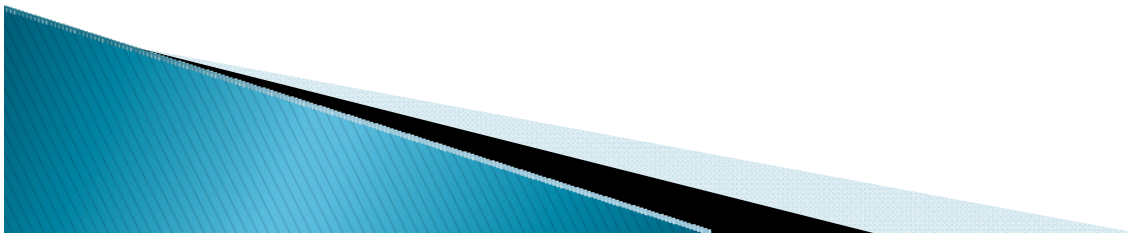
ISO's Green Building Upgrade

- ▶ Optional endorsement (CP 04 02)
 - Increased Cost of Loss and Related Expenses for Green Upgrades
- ▶ Can be attached to:
 - Building & Personal Property Coverage Form
 - Business Income Coverage Forms
 - Extra Expense Coverage Forms
 - Condominium Coverage Forms



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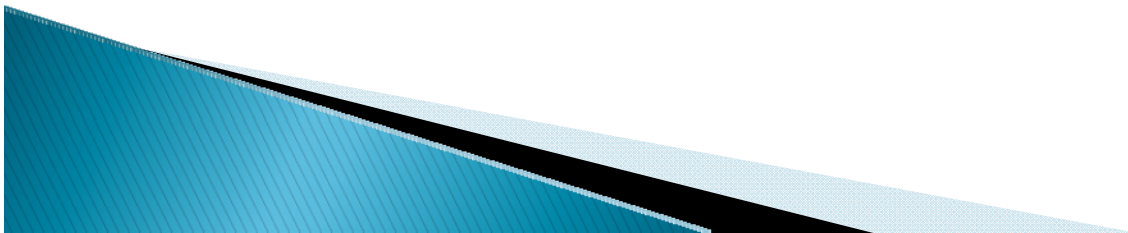
- ▶ Applies to selected Building and/or Personal Property items
 - does not apply to stock, personal effects, personal property of others, leased property
- ▶ Requires Replacement Cost Coverage
- ▶ Direct Damage, Extra Expense & Business Interruption
- ▶ Can be used for old building stock or even existing Green buildings



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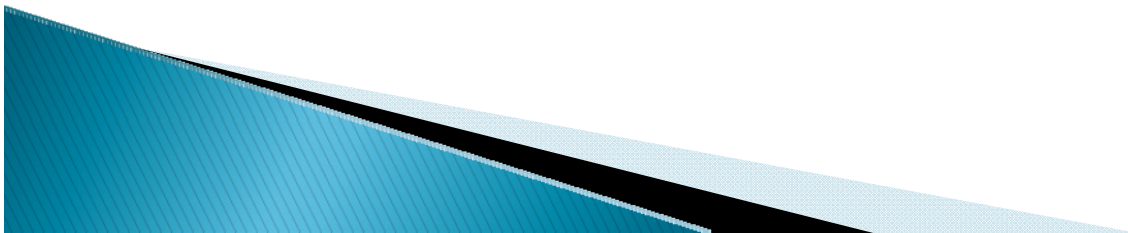
▶ Direct Damage

- Increased loss settlement % subject to limit
 - 10% – 50%
 - Green Upgrade Maximum Amount
- Reasonable additional costs
- Recognized “Green Standards–setter”
 - LEED; Green Globes; Energy Star
- Building System Limitation



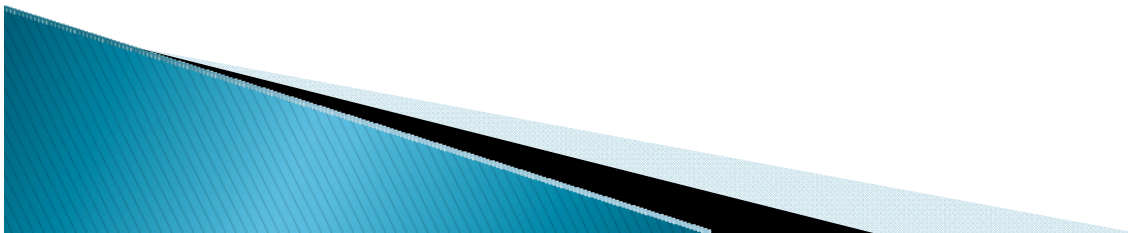
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- ▶ Direct Damage (Cont'd)
 - Relation to Ordinance or Law
 - Vegetative roof
 - Requires actual repair/replacement
 - Insured can elect not to make green upgrade



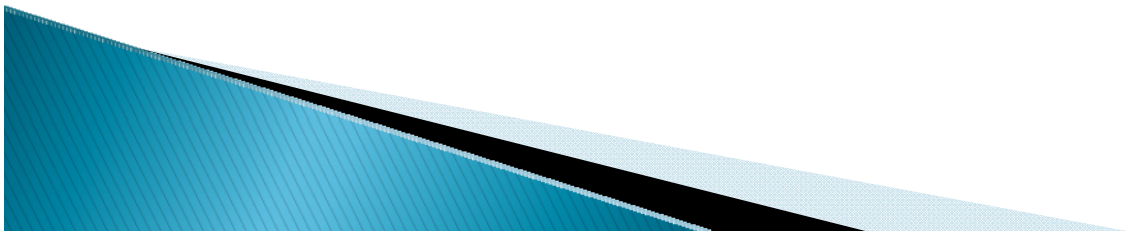
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- ▶ Related Expenses
 - waste reduction and recycling
 - design and engineering professional fees
 - certification fees and related equipment testing
 - building air-out and related air testing



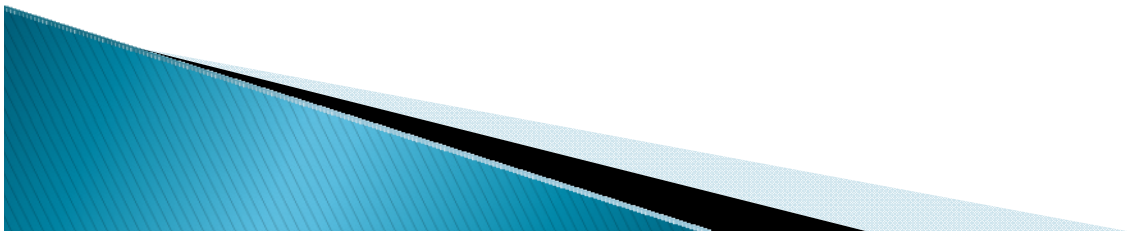
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- ▶ Business Interruption
 - Period of Restoration
 - extended to recognize the potential for increased period of time attributable to rebuilding green
 - 30 days with option for 60, 90, 120, 180
- ▶ Filed Countrywide for a 3/1/10 effective date



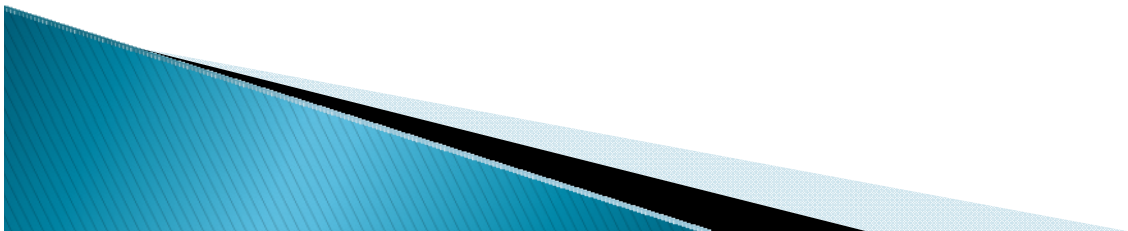
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- ▶ Emerging Green Risks
- ▶ Potential Litigation
- ▶ Alternative Energy
- ▶ Climate Change
- ▶ Sustainability
- ▶ Resiliency vs. Green
- ▶ Green as a building code



Show Me The Green

- ▶ Automobile
- ▶ Materials
- ▶ Warrantees – expressed or implied
- ▶ Integrative Design and risk mitigation
- ▶ Staying green (tenant and vendor mgt)
- ▶ Operations
- ▶ Greenwashing
- ▶ Late mover



Show Me The Green-Questions?

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