

SUSTAINABILITY: MAKING DOLLARS & SENSE



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INTRODUCTION

The Residential Sector consumes 21.9% of the [total energy consumed] in the U.S.

McGraw Hill Green Smart Market Report, 2011.



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INTRODUCTION

Green building has moved into the mainstream, now accounting for 41% of the total value of the nonresidential construction market

McGraw Hill Smart Market Brief – Determining the value of Green Building Investments, 2012.



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FACTORS DRIVING GREEN INVESTMENT

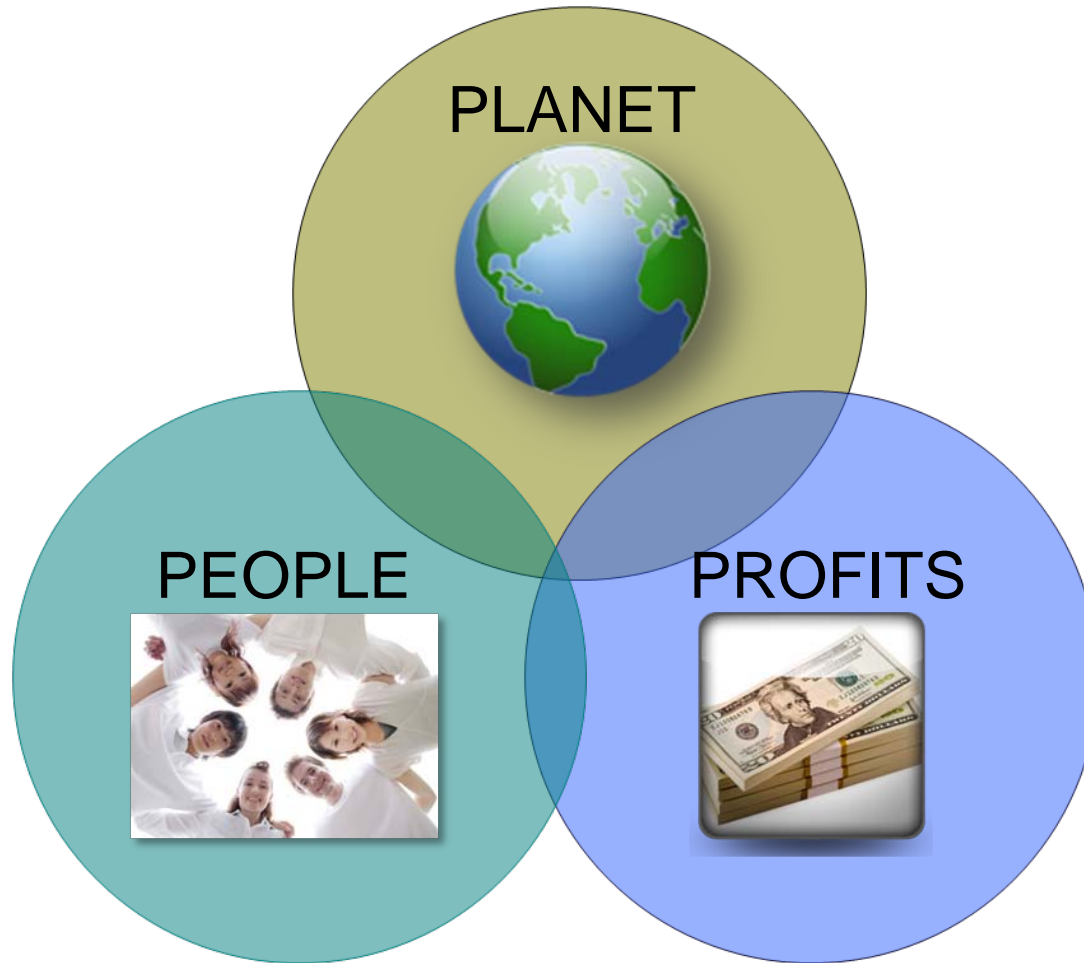


- Government's Role
- Resident Demand
- Investor Demand
- Industry Support
- The Business Case



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TRIPLE BOTTOM LINE



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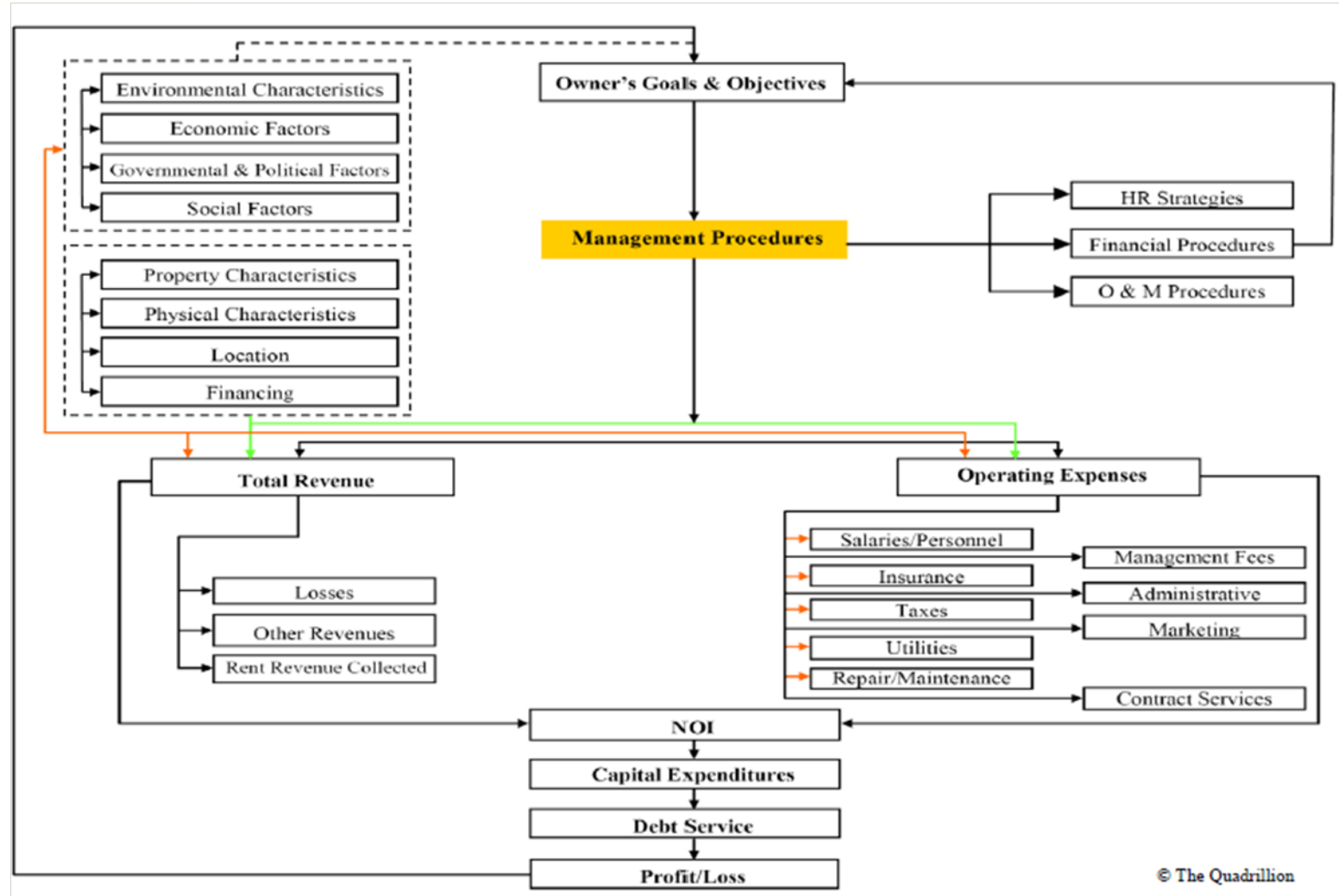


Green Conference

APRIL 15-17, 2013 | BALTIMORE, MD

Baltimore Marriott Waterfront Hotel

FRAMEWORK



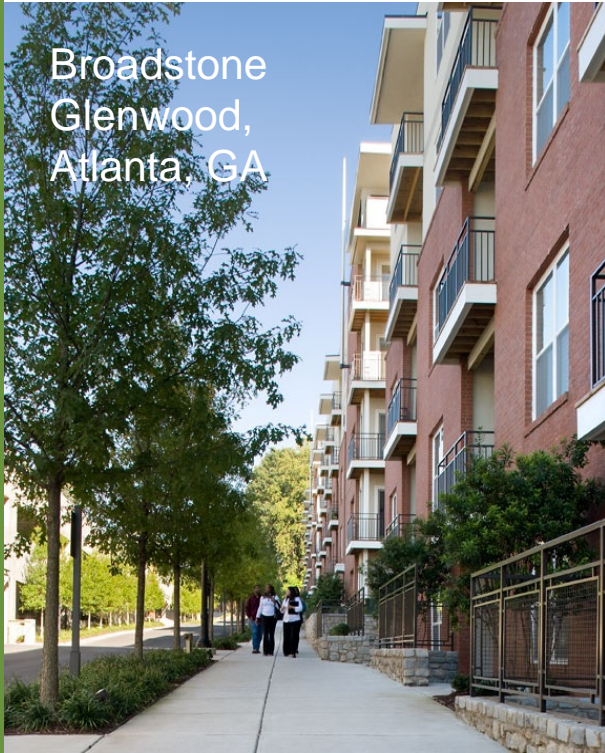
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PURPOSE AND SCOPE OF THIS RESEARCH

Broadstone
Glenwood,
Atlanta, GA.



Purpose:

- Identify factors driving and limiting green building initiatives in multi-family assets.

Methodology:

- Personal interviews with expert panel representing the Top 25 REITs and other owner/operators.



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Drivers

Drivers Include:

- Financial Motivation
(reduce operating expense)
- Investor Demand
- Government Mandates
- More Options
(Products & Services)
- Resident Expectations

Limitations

Limitations Include:

- Lack of Consumer Awareness
(LEED vs. EnergyStar)
- Lack of Data Sources and Baselines
- Long Payback Periods
- Resident Expectations



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BRANDING THE GREEN BUILDING: THE RATING SYSTEMS / ORDINANCES

- **LEED: Leadership in Energy Efficient Design by U.S. Green Building Council**
 - LEED NC (New Construction – High Rise and Mixed Use)
 - LEED – Homes (Low Rise Residential)
 - LEED – Homes MFMR (Multi-family Mid Rise)
 - LEED EB (Existing Buildings and Renovations)
 - LEED ND (Neighborhood Development)
- **Energy Star** DOE/EPA – National, Most Consumer Recognized
- **Energy Star Multifamily** (Envelope and Energy Use Only)
- **Earthcraft Program**
 - Southface - Regional
 - Earthcraft Renovations (Envelope, Materials and Energy Use)
 - Earthcraft Multifamily (Low and Mid-rise Residential)
 - Earthcraft Light Commercial (under 15K)
- **Enterprise Green Communities** HUD (based on LEED)
- **NAHB Program**
- **Watersense** - EPA Water-Saving Plumbing Fixture Program
- **ASHRAE, Green Stars, Green Globes Living Building Challenge, and others.**



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GREEN BUILDING: DEFINITION

The U.S. Office of the Federal Environmental Executive (OFE) defines “green building” as those that:

- Increase(s) the efficiency in which buildings and their sites use energy, water and materials and;
- Reduce(s) building impacts on human health and the environment through better siting, design, construction, operation, maintenance, and waste removal through the complete building cycle.”



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LIFE CYCLE COSTS

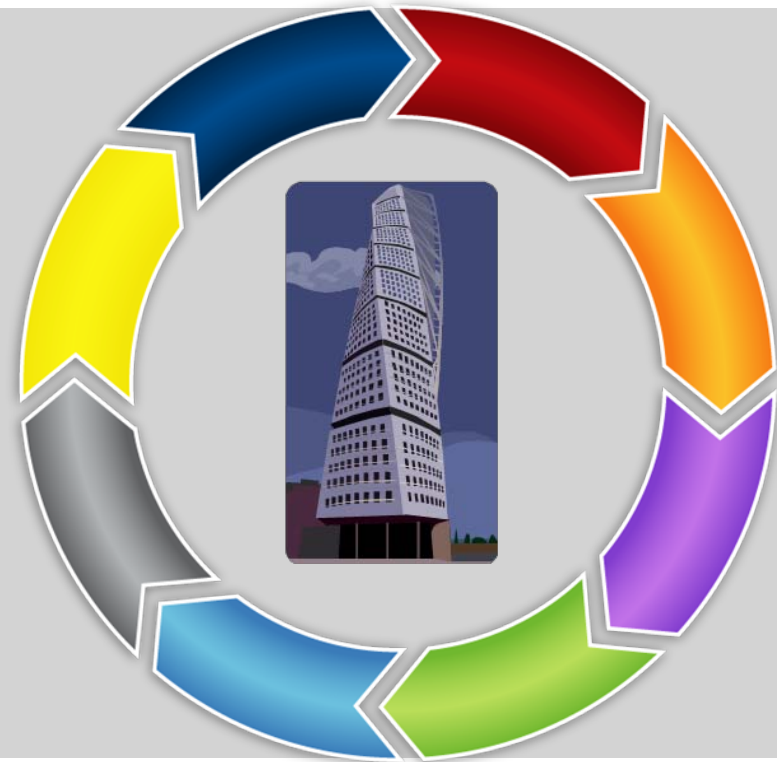
It is commonly agreed that sustainable buildings should be designed and operated based on their life-cycle costs, which reflects the cost of the building over its entire life span rather than on just the “first” costs.



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FACILITY MANAGEMENT LIFE CYCLE

- Planning
 - Programming & Budgeting
 - Approval processes
- Acquisition
 - Build or Buy
 - Design & Construction
- Operations & Maintenance
 - Maintenance & Repair
 - Alteration
- Major Repair

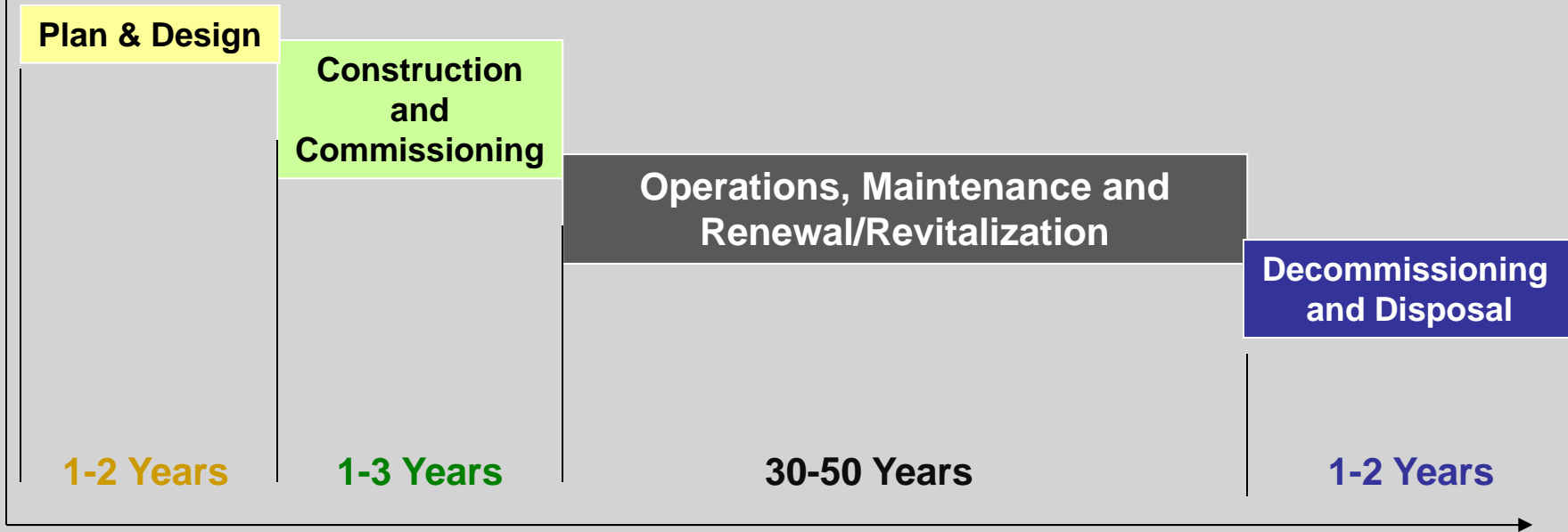


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RESIDENTIAL VS. COMMERCIAL

Facility Life-Cycle Phases

Facility Life-Cycle Phases

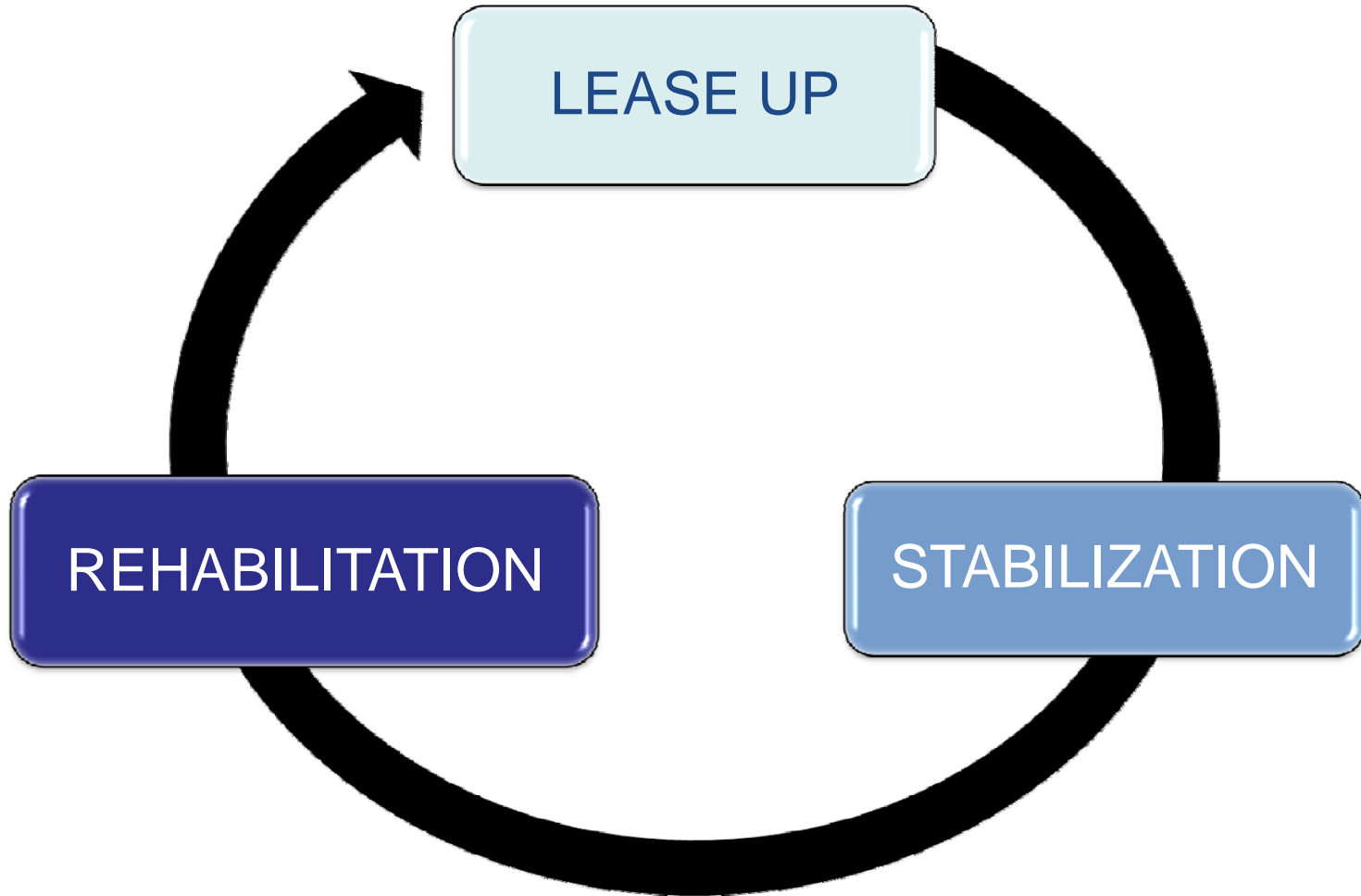


Typical Commercial Life-Cycle in Years
Not to Scale



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RESIDENTIAL MULTI-FAMILY LIFE CYCLE

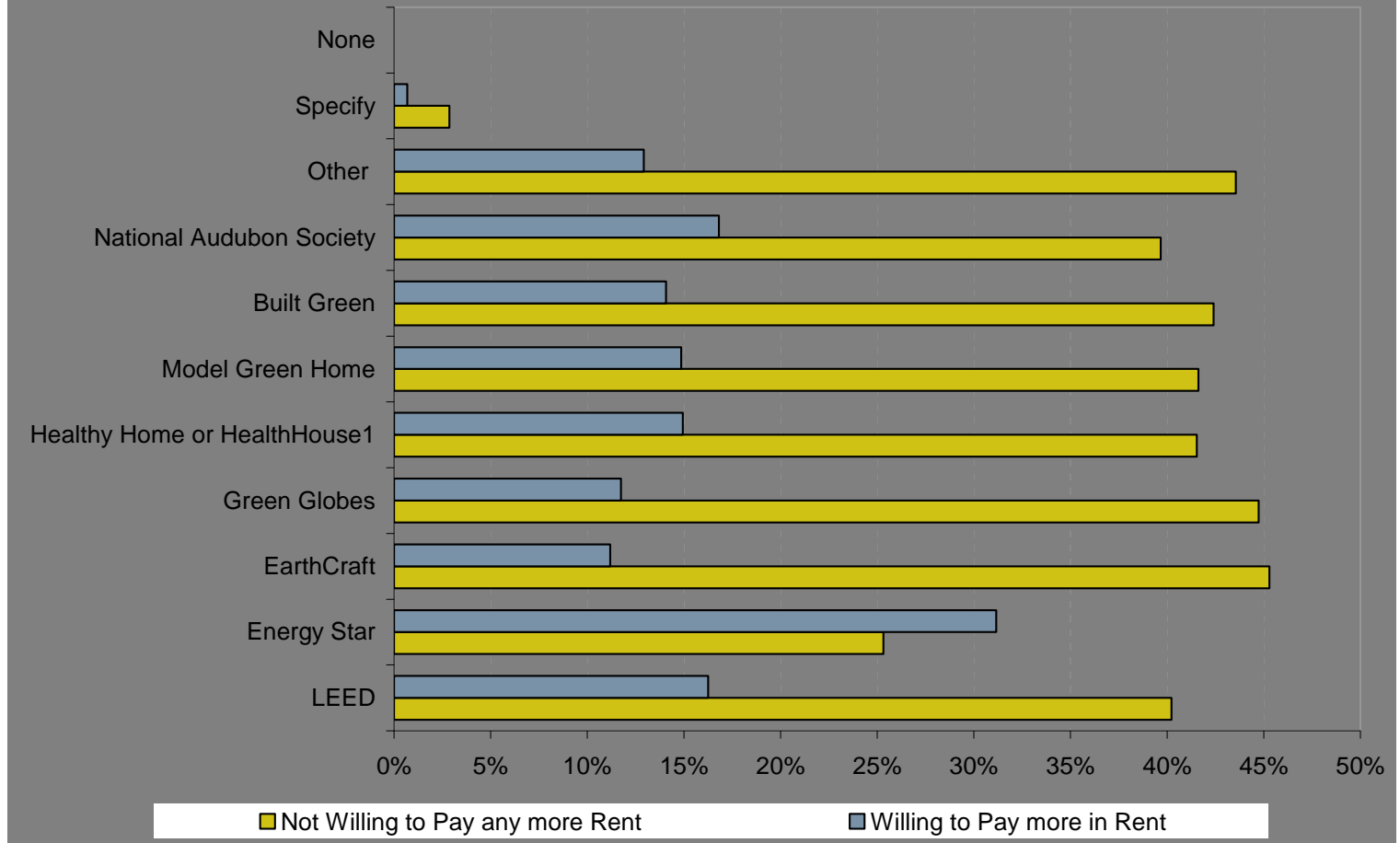


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“BRANDING” THE GREEN BUILDING

ENERGY STAR IS THE BRAND THEY KNOW AND TRUST

For those who answered ‘MORE INCLINED TO STAY’ in CQ27, please indicate your willingness to pay a higher rent for one or more of the following certifications:

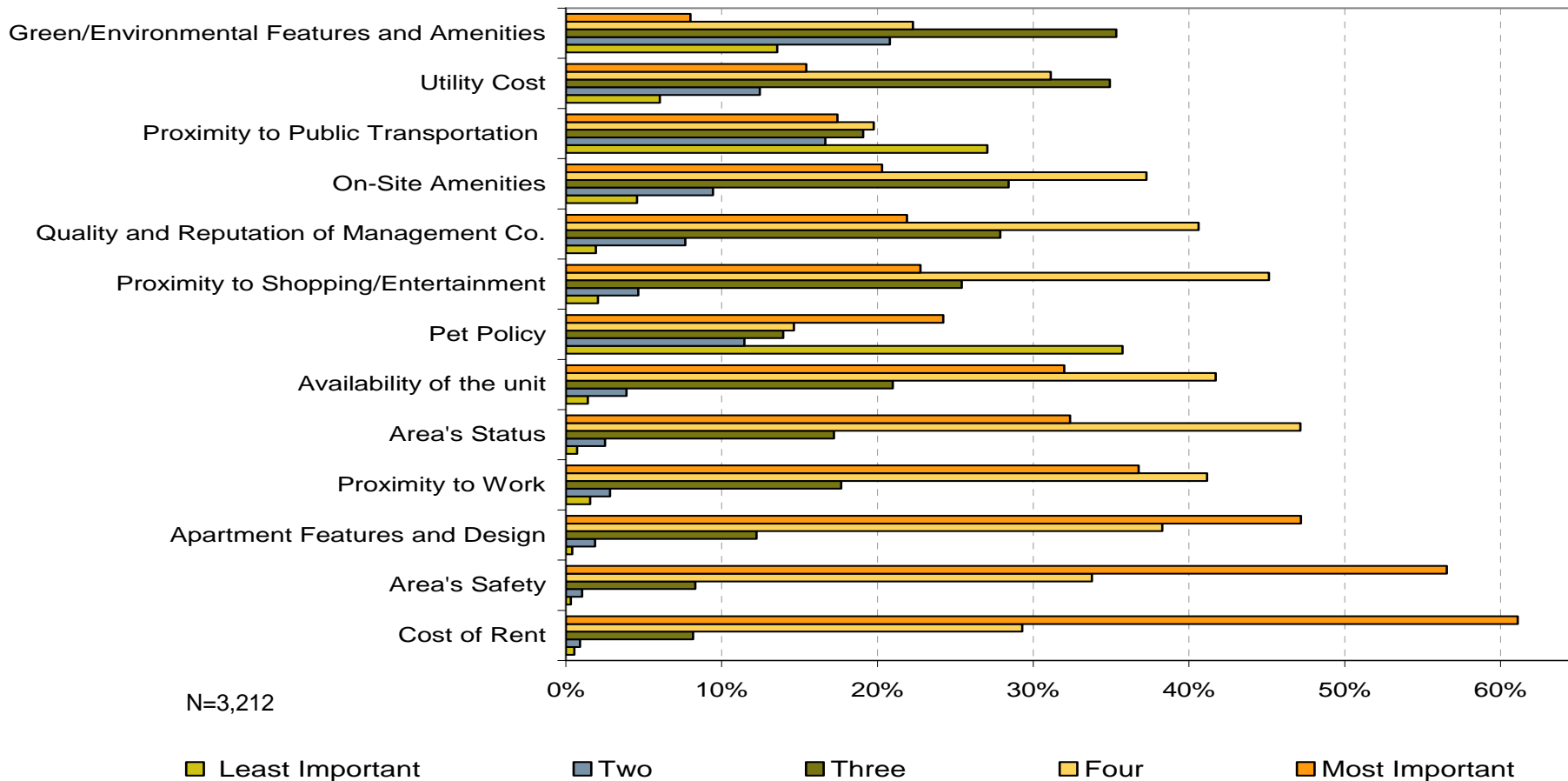


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“GREEN” NOT THE MOST IMPORTANT FACTOR

COST, SAFETY, FEATURES, LOCATION DRIVE DECISIONS

Rate the Following Factors in Terms of Importance



Source: RCLCO 2011



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COST PREMIUM FOR LEED BUILDINGS:

Several Reasons Emerge for Limited Cost Premium:

- Many features not more expensive, but different.
- Greater experience means greater proficiency.
- Demand creates innovation which lowers costs.
- Available incentives offset cost premiums.



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COST/BENEFIT FOR GREEN PROJECTS

Gables
820 West,
Atlanta, GA



- Inconclusive due to diversity of stock.
- Limited pool of projects for definitive study:
 - 14 Multi-family projects are certified as LEED –EB (*As of March 2013*).
- Operating Performance:
 - Does green translate to product demand?



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Investors want to know if green buildings trade at lower capitalization rates or yield higher returns on investment.

One study reported that green buildings command:

- 3.0% higher rents.
- 6.6% higher returns.
- 7.5% higher values.

McGraw Hill 2006 Smart Market Report Based on a survey of architects, engineers and building owners.



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BENEFITS



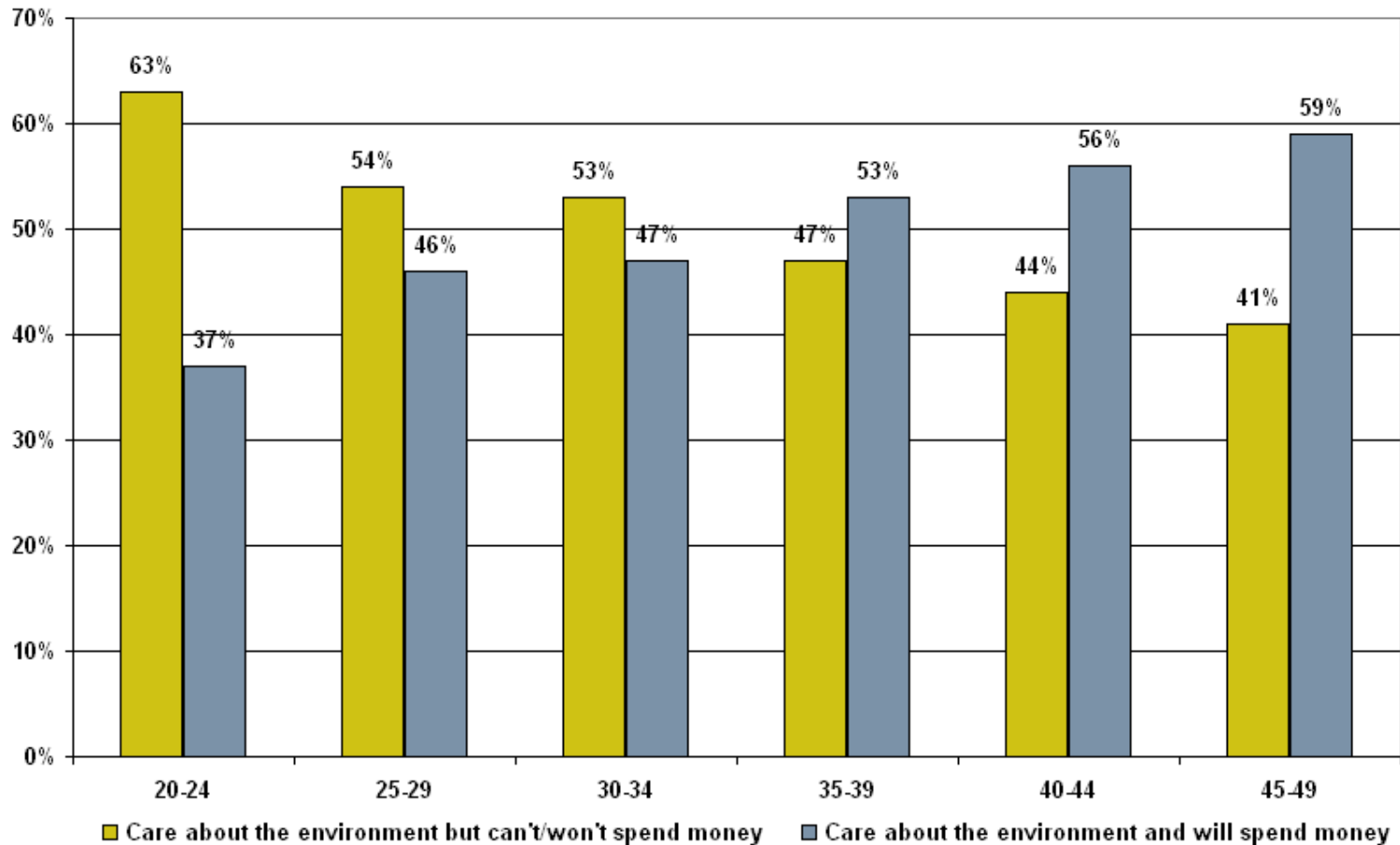
Nelson, A.J., (2007) RREEF, *The Greening of U.S. Investment Real Estate: Market Fundamentals, Prospects and Opportunities.*



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YOUNGER RENTERS LESS LIKELY TO SPEND THEY MAY *EXPECT* ECO-RESPONSIBILITY

Describe your level of concern for the environment

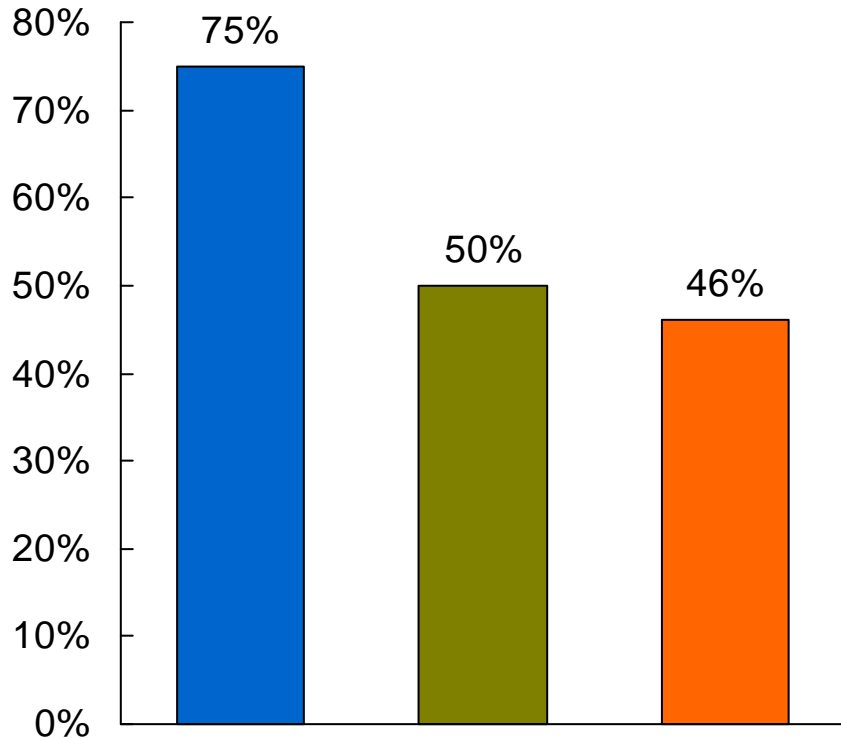


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WILL BUYERS PAY EXTRA FOR “GREEN” FEATURES? YES, IF THERE IS A RETURN ON THEIR INVESTMENT or HEALTH

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Baltimore Marriott Waterfront Hotel

If their investment pays them back over time, buyers are willing to spend more money on their home if....

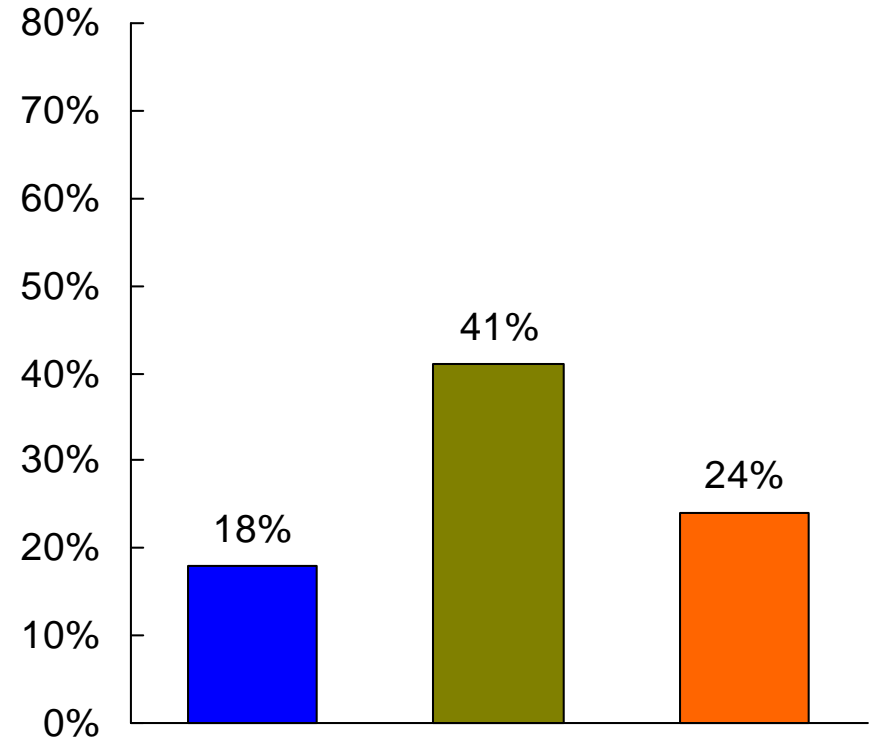


 If It Saves Energy

 If It Provides Health Benefits

 If It's Good for the Environment

If their investment may not pay them back over time, buyers are willing to spend more money on their home if....

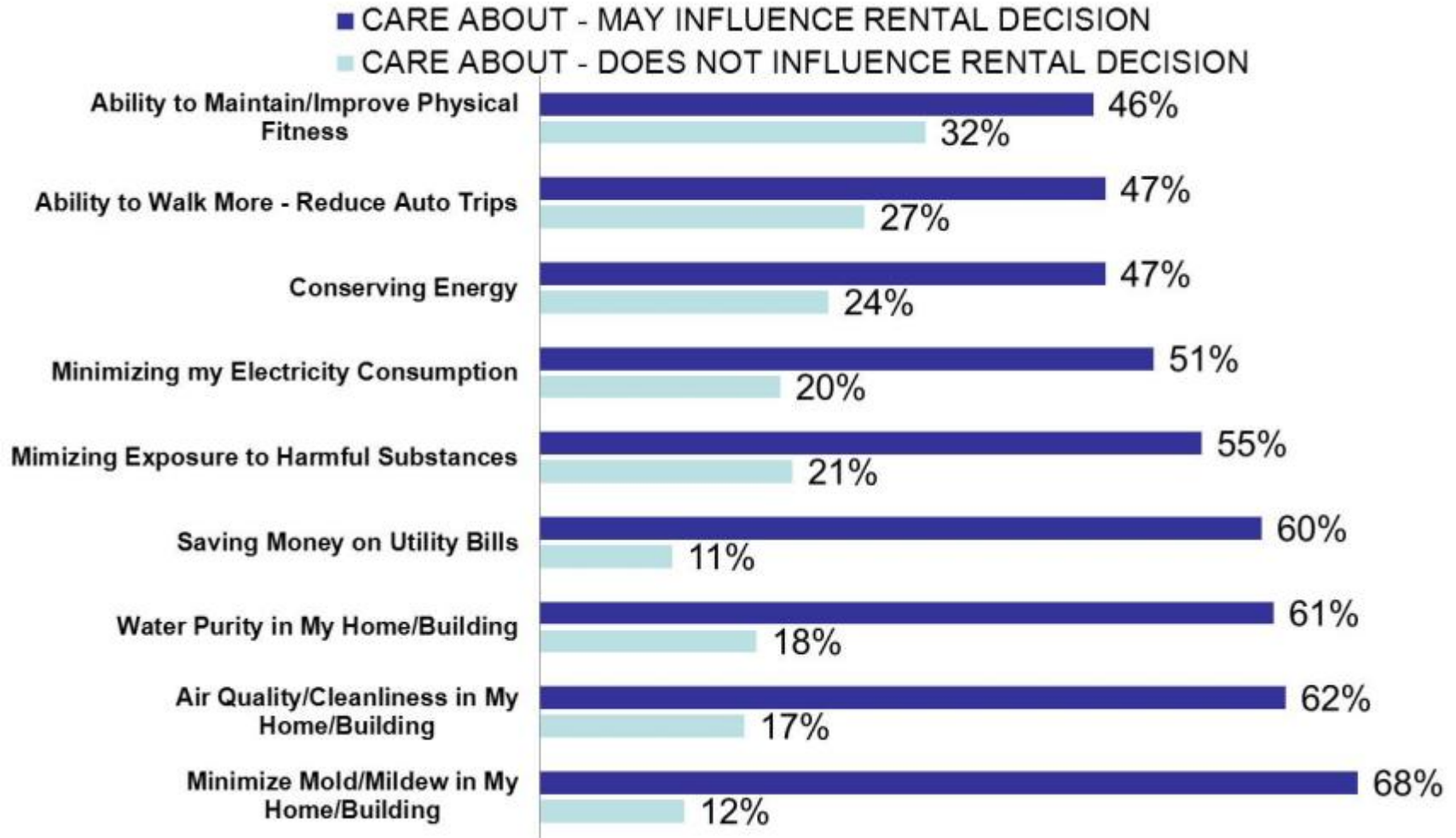


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VARYING IMPORTANCE OF “GREEN” BENEFITS

“ME GREEN” VS. “WE GREEN”

“ME GREEN”



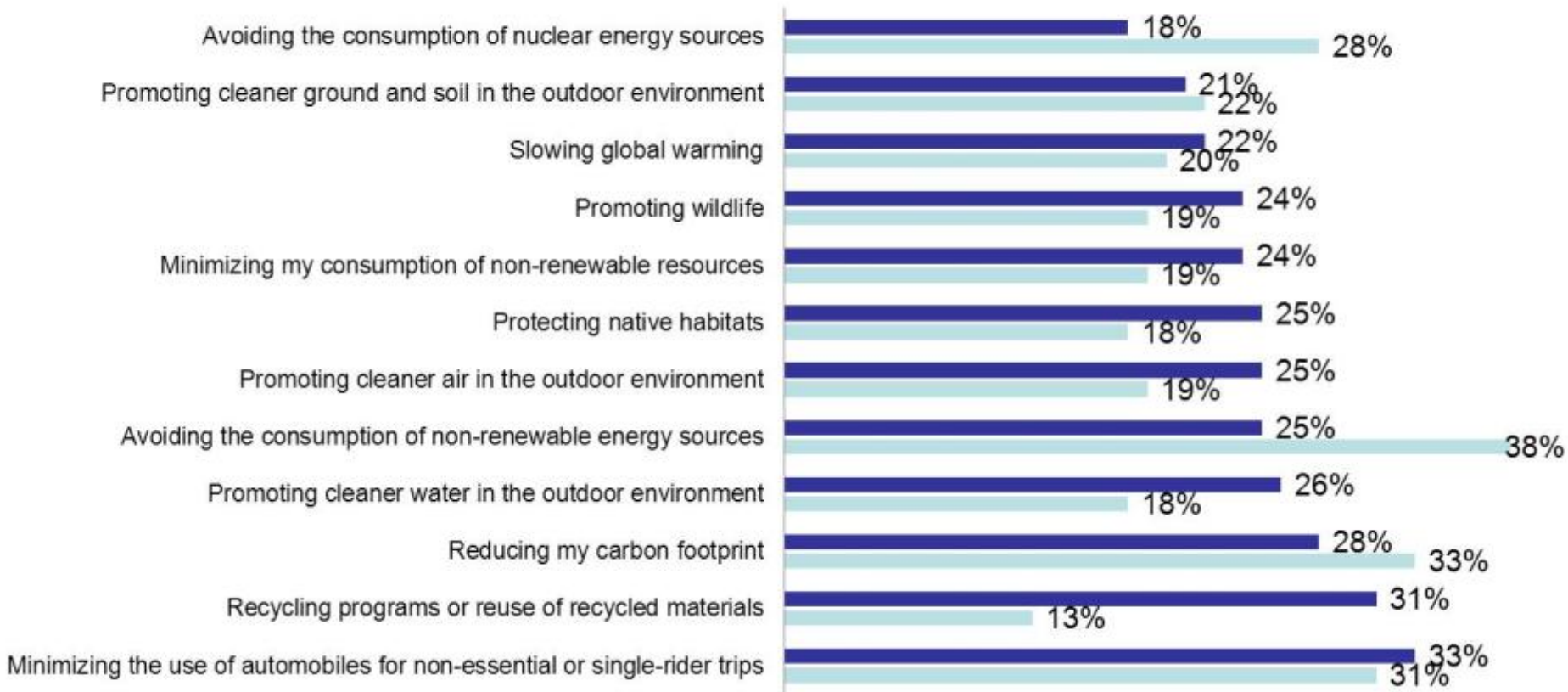
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VARYING IMPORTANCE OF “GREEN” BENEFITS

“ME GREEN” VS. “WE GREEN”

“WE GREEN”

- Care about and may influence my rental decision
- Care about the issue but would not influence my rental decision



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WHAT ABOUT MARKET FOR “GREEN” ? DEMAND BASED ON BENEFITS, NOT FEATURES



**Green homes are better
for “the environment”**

**Green homes save energy
(and have lower utility bills)**

**Living in a green home is
better for my health and
that of my family**



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INVESTOR DEMAND



- Increased Willingness to Finance
- Recognizing Opportunity to Profit
- Becoming More Comfortable with Product



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Green Funds and REITS

Specialized green funds and green REITs are likely to play even larger roles in financing new green buildings, providing greater capital funding for this product and an attractive investment vehicle for socially-conscious investors.



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MARKET OPPORTUNITIES



- New Construction
 - Development Costs Evening Out
 - Hard to Justify “Non Green”
 - Early Adopters = Above-average Returns
- Existing Inventory
 - Rising Energy Prices
 - Limited Green Space
 - Retro-fitting “Good Bones”



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NEW CONSTRUCTION OPPORTUNITIES:

Sustainable Features that Appeal to Residents, Add Value and Create a Healthy Sustainable Living Environment



- Energy Efficient HVAC
- Low E Glass / Window selection
- Tight Building Techniques
- Innovative Framing
- Insulation Options
- Energy Star Appliances / CF Lighting
- Sustainable Materials / Recycled Finishes
- Building Recycling
- Low VOC Carpet Paint and Wall Coverings
- Low-flow fixtures
- Solar / Heat Pump Hot water
- Pressure Assist / DF Toilets



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EXISTING BUILDING OPPORTUNITIES

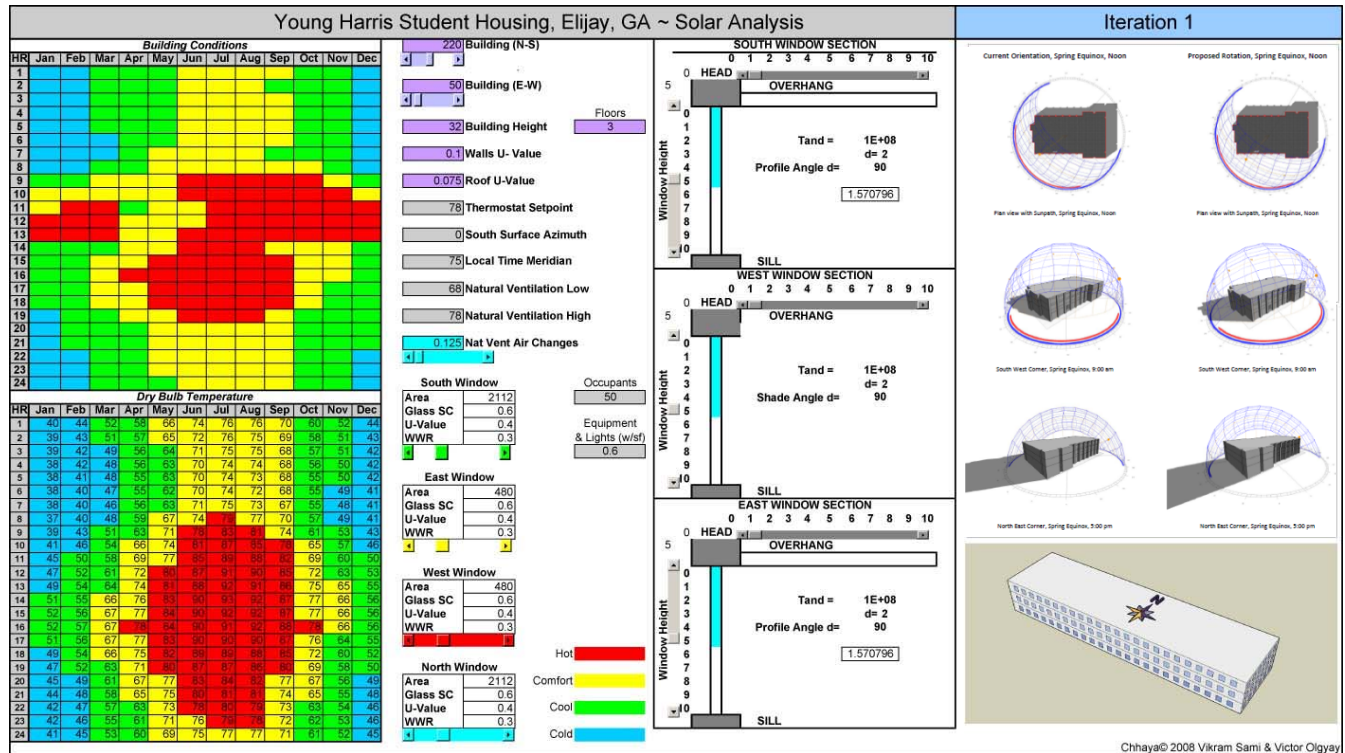


- Analyze Building Systems (look at payback times)
- Study Infiltration points (Air Gaps and Thermal Bridging)
- Improve Lighting (compact and more efficient fluorescent, LED technology)
- Modeling or Testing existing Conditions (energy use and daylighting)
- Improve Insulation and roofing (add or replace)
- Improve windows (insulation or shading)
- Look at operations:
 - Cleaning Products
 - Maintenance Program
 - Building Recycling
 - Occupant Education



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GREEN DESIGN: ANALYSIS



Solar Modeling – Minimal Cost Impact



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SUSTAINABILITY – THE NEXT GENERATION

[The Millennials] have been raised with a civic-minded consciousness. They believe that it is their duty to improve their communities and do good deeds in the areas of race and gender relations, the environment, faith, and politics.

Scott Keeter and Paul Taylor, *The Millennials*, Pew Research Center 2009.



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SUSTAINING VALUE: WALKABILITY



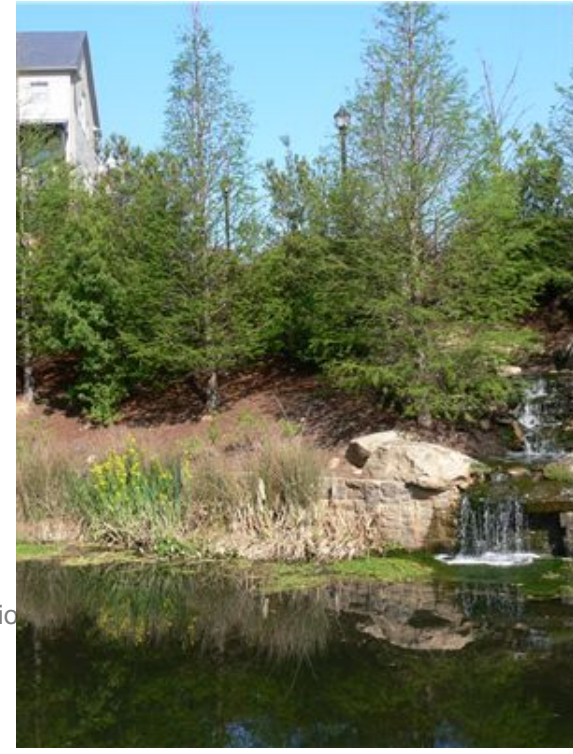
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SUSTAINING VALUE: CONNECTIVITY



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SITE DESIGN: HIGH PERFORMANCE INFRASTRUCTURE



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SITE DESIGN: HIGH PERFORMANCE INFRASTRUCTURE



Pervious paving helps manage stormwater by reducing runoff from parking lots.
 Exterior light fixtures with a sharp cutoff angle help keep the neighborhood safe, but do not contribute to light pollution.
 Vegetated swales at the edges of parking lots filter stormwater before it enters neighborhood waterways.



Visible Value:

- Creative Hardscape
- Managing Stormwater
- Pervious Paving
- Recycled Materials
- Attention to Detail



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SUSTAINABLE DESIGN: “STATE OF THE SHELF” TECHNOLOGY



Value Residents can Touch:

- LED / Efficient Lighting
- EnergyStar Appliances
- Low Flow Plumbing Fixtures
- Recycled Materials
- Low VOC Paints and Coatings
- High Efficiency Systems



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AFFORDABLE HOUSING: ENTERPRISE GREEN COMMUNITIES



The Green Criteria contains detailed information that addresses aspects of design, development and operations for Affordable Housing:

- Integrated Design
- Site, Location and Neighborhood Fabric
- Site Improvements
- Water Conservation
- Energy Efficiency
- Materials Beneficial to the Environment
- Healthy Living Environment
- Operations and Maintenance

No Building Commissioning

No Reporting to LEED (HUD Reviews)



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AFFORDABLE HOUSING



Considerations:

- Long Term Ownership
- Reduce Building Operating Costs
- Longer Payback times
- Improve Resident Health (IAQ, Walkability)
- Reduce Occupant's Costs (utilities, etc)
- Resident and Staff Training Programs
- Facilities Operation



DIVISION STREET SUSTAINABLE HOUSING

ROME, GEORGIA



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NATIONAL APARTMENT ASSOCIATION
AMERICA'S LEADING ADVOCATE FOR QUALITY RENTAL HOUSING
WWW.NAAHQ.ORG

AFFORDABLE HOUSING



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TRENDS SUMMARY



- Building codes will be revamped for the first time in a generation requiring 30%+ greater energy efficiency.
- Redefinition of “institutional-quality” real estate.
- Compelling investment picture: green building has a higher cost, but yields substantial savings and results in higher rents, lower vacancies and quicker absorption.



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FUTURE TRENDS



Regional approach to sprawl

Carbon Offsetting in Construction and Materials (Net Zero)

On-Site Power Generation

Regional Changes in Pricing

Fewer Government Incentives for other sources

Reduction of regional water use for power generation

More Use of Graywater, possibly mandated

Code Changes

Technology

On-site Wastewater Treatment

Rainscreen Technology, and envelope improvements

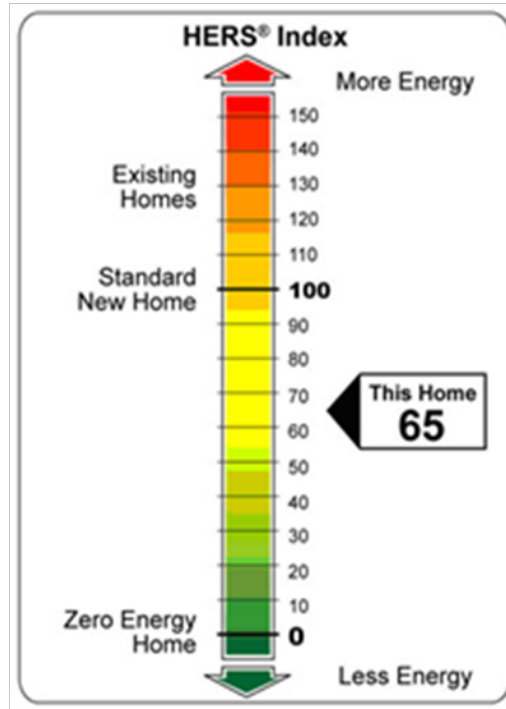
Urban Agriculture

Micro-Units



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TRENDS: BUILDING ENVELOPE

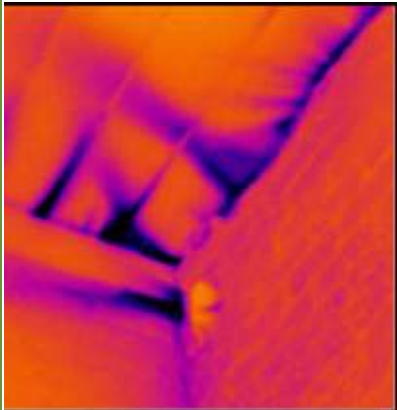


- Advanced Framing
- Air Sealing
- Innovative Framing
- Insulation
- Moisture Control
- Ventilation
- Blower Door Testing / HERS Rating



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TRENDS: BUILDING ENVELOPE



- Advanced Framing
- Air Sealing
- Innovative Framing
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The most effective areas for impacting operating cost and improving indoor comfort on low rise – mid rise residential projects

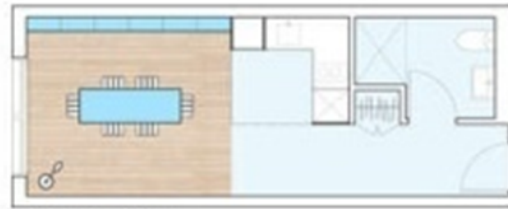


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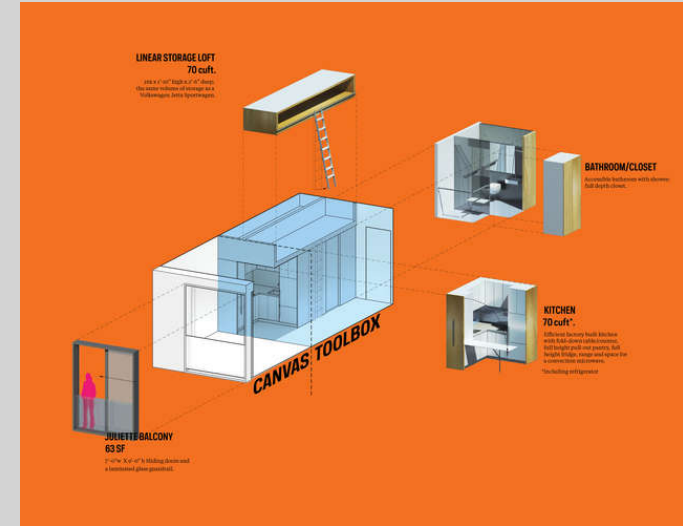
TRENDS: COMPACT LIVING



APT. #3A - DAY
 17' 10" high wall surface/bedroom closets used as storage
 with 4th bedroom conversion to dining and ready for a coffee.



APT. #4D - DUSK
 Preparation for a dinner of 4 in a dining room.



Micro-Units



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TRENDS: COMPACT LIVING



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In the Era of Less, Apartments fit the bill...

ULI Emerging Trends in Real Estate, 2011



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THANK YOU! - QUESTIONS?



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