



Green Value: Making Money from Green Buildings

a presentation to
Cascadia Chapter, USGBC

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 asset strategics

About RICS

- World's largest real estate profession
 - ◆ Over 117,000 members in 123 countries
 - ◆ Formed in 1886
 - Traces routes to 1086
 - ◆ Qualifications
 - FRICS, MRICS, TechRICS, Probationers, Students
- Multi-disciplinary
 - ◆ 16 "Faculties" & 187 "Specialisms"
 - ◆ Includes Environmental & Valuation Faculties
- Resources
 - ◆ Over 400 research papers published annually
 - ◆ <http://www.rics.org/>

Why Value is Important

- Private sector seeks profit, value
 - ◆ Required for business, funding & shareholders
 - ◆ Commercial green buildings must meet financial review
 - BUT: financial & real estate sectors sceptical
 - ◆ Value has a wider definition including "public good"
- *Value not cost savings*
 - ◆ Corporate accounting impacts sustainability
 - Cost approaches tend to ignore life cycle and savings
 - ◆ Result: value is being incorrectly assessed



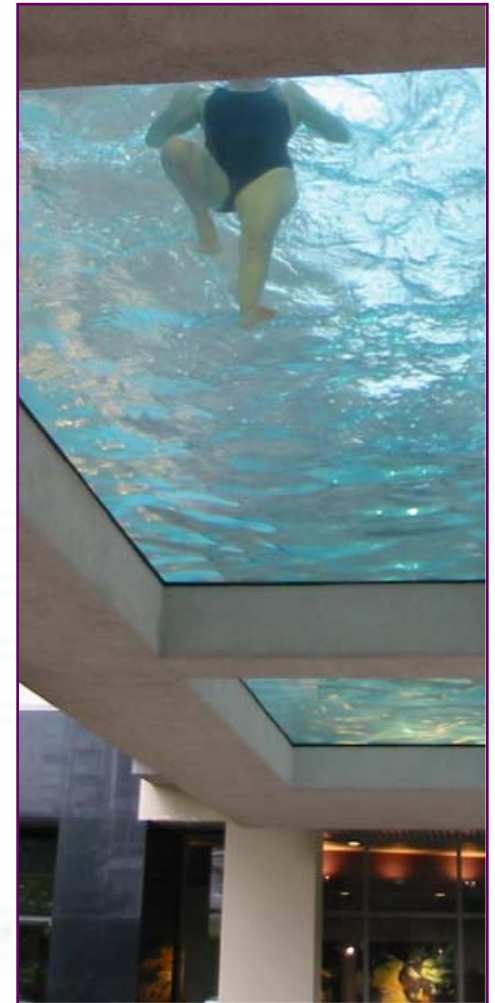
Who Drives Value & Why

- **Developer:** Maximizes return on equity, benefit from faster lease-up, higher rents & sale value, lower inducements
- **Investor:** Wants long-term stable returns, higher rents, lower operating costs, lower vacancy and capital investment, secure competitive asset with long life cycle & flexible design
- **Owner/Occupiers:** Seek healthy, productive environment, employee retention, productivity, lower operating and ongoing capital costs, flexible design
- **Tenants:** Want a productive & healthy workplace, attract & retain best employees, lower operating costs, lower rents, lower capital replacement
- **Financiers:** take long term risks with their capital, long term objective is greater security of collateral, stability of income/debt service, long term value increases mitigation of re-financing rate



Why This Study?

- Value gap
 - ◆ Many in the real estate sector don't understand Green
 - Myth & inaccurate claims fuel scepticism
 - Cost savings wrongly described as "value"
 - Misunderstanding of how Green affects asset value
 - ◆ Value not integrated in rating systems
- Opportunity
 - ◆ Value could substantially exceed cost savings
 - ◆ Accounting & valuation standards not yet Green
 - ◆ Increasing interest from real estate & financial sectors



Green Value Null Hypothesis

- Null Hypothesis:

"There is no relationship between the market value of a real estate asset and its green features and related performance."

- Purpose:

- ◆ Analytical neutrality
- ◆ Lack of data
- ◆ Simplify assessment

- Cause:

- ◆ Canadian Bankers' Association interest



Green Value Summary

- Sponsors:
 - ◆ RICS
 - ◆ BC Hydro
 - ◆ Canada Green Building Council
 - ◆ English Partnerships (UK)
 - ◆ Greater Vancouver Regional District
 - ◆ Green Buildings BC
 - ◆ Natural Resources Canada
 - ◆ RealPac
- Others:
 - ◆ Canada Mortgage & Housing Corp., City of Vancouver
 - ◆ Team: Cushman Wakefield LePage, Busby Perkins+Will, BuildGreen, DTZ (UK)
- Best practices & literature review
- 18 project reviews in:
 - ◆ San Francisco, California
 - ◆ Minneapolis, Minnesota
 - ◆ Oberlin, Ohio
 - ◆ New York City, New York
 - ◆ New Westminster, Vancouver, Victoria, BC
 - ◆ Kitchener, Ottawa & Toronto, Ontario
 - ◆ Montreal, Quebec
 - ◆ 6 UK projects

Green Value Projects



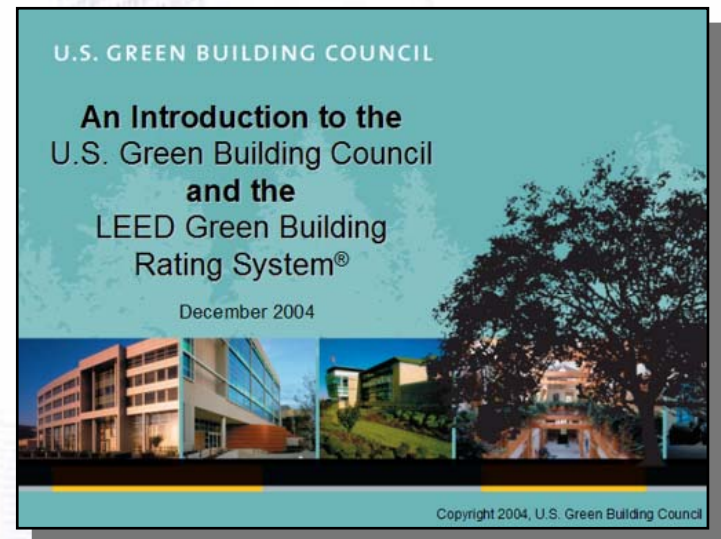
Value: Not Always Understood

■ Example 1: USGBC

"Using the income-capitalization method: asset value = net operating income (NOI) divided by the capitalization rate (return). If the cap rate is 7%, **divide the reduction in annual operating costs by 7% to calculate the increase in the building's asset value**"

■ But: Cost savings are uncertain to affect value

- ◆ Gross leases can *increase* energy consumption
- ◆ Net leases separate capital investment from the benefit
 - Value accrues to tenant, i.e. not directly benefiting capital value
 - Cost accrues to landlord unless passed through



Value: Not Always Understood

- Example 2: Institute for Transformational Change

"According to the National Research Council, 60 to 85 percent of a building's real costs are related to operations; the initial construction cost is 10 percent or less."

"As the largest single operating expense in typical commercial buildings, energy costs are typically an important factor in building value."

- Is your energy bill *really* larger than rent or mortgage?
 - ◆ Study detail shows less than one year's energy benefit actually attributed by buyer

The Impact of Energy Costs on Commercial Building Value



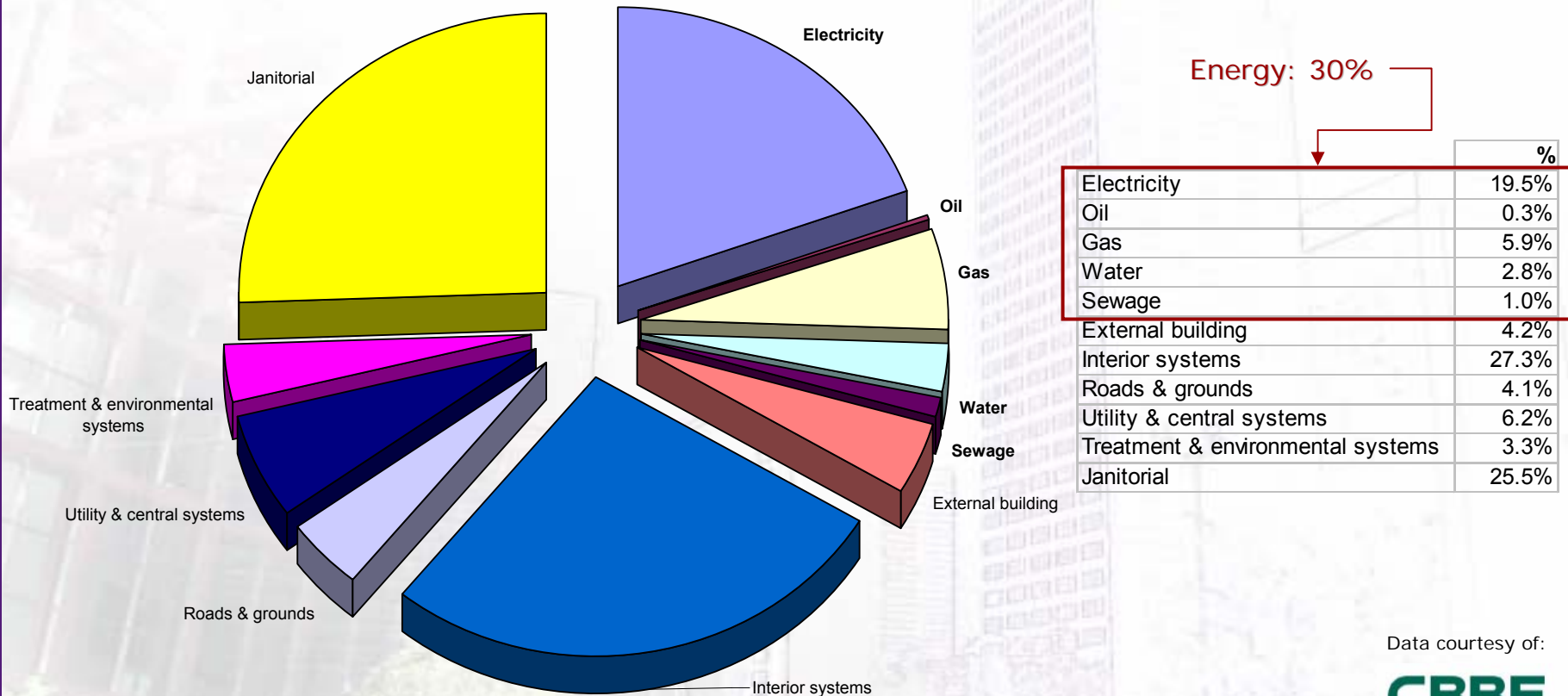
Case Study
Telergy Office Building
One Telergy Parkway
DeWitt, New York 13057

March 2003

Prepared by
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Prepared for
New York State Energy Research and Development Authority (NYSERDA)

Green Cost Savings: What's in Operating Costs

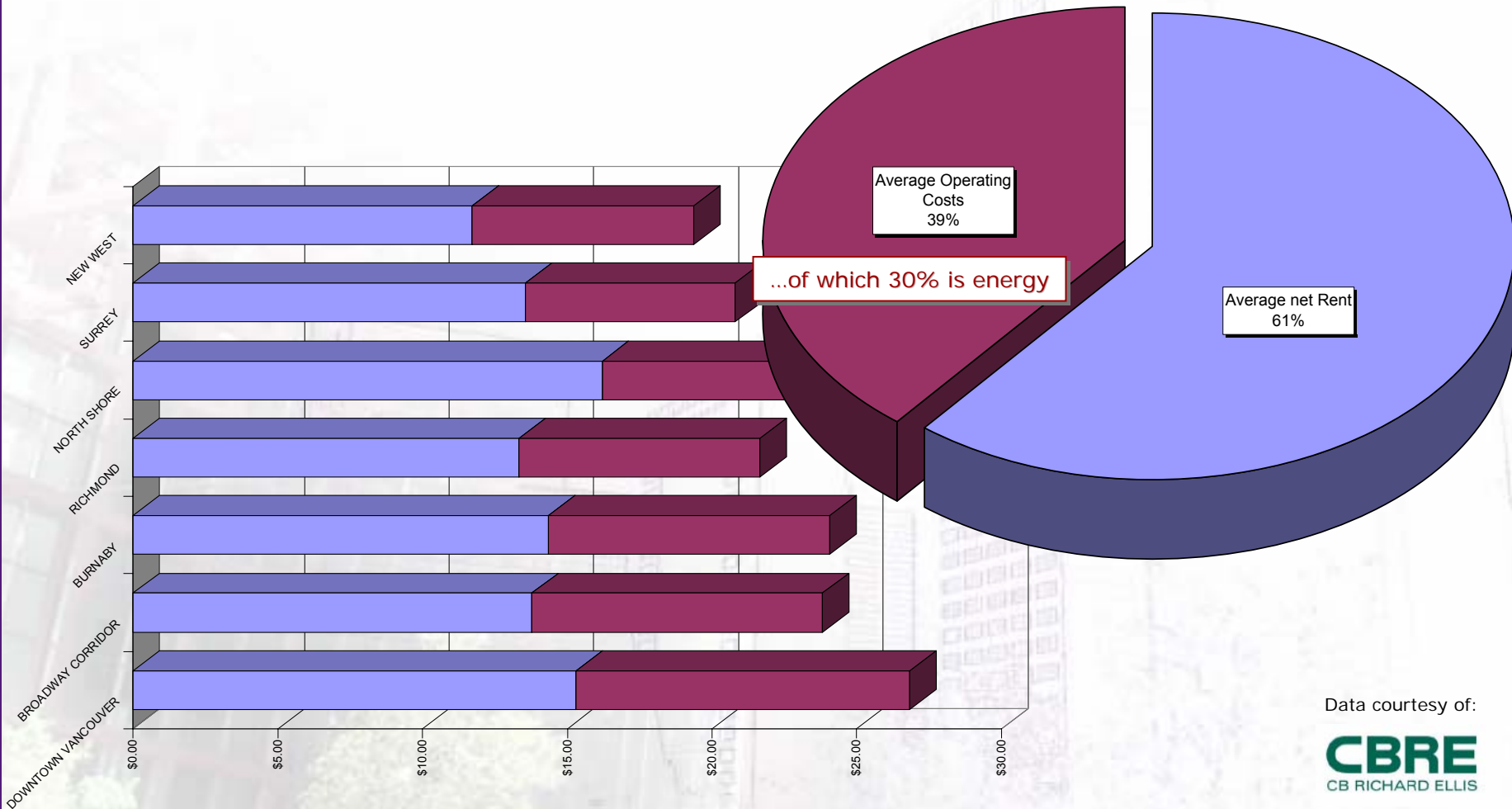


Data courtesy of:



International Facilities
Management Institute

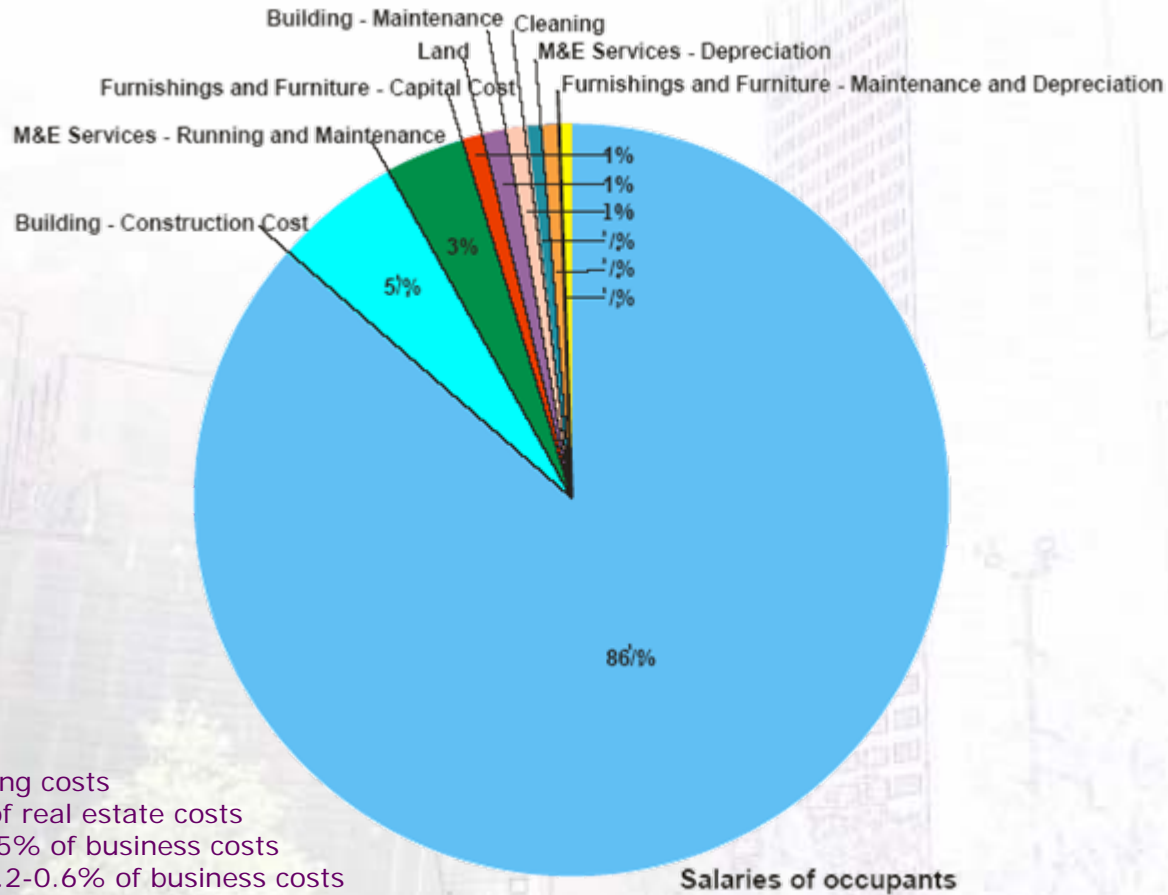
Green Cost Savings: How Big are Operating Costs



Data courtesy of:



Green Cost Savings: The Total Costs of Business



CONTEXT

Energy = 30% of operating costs

Operating costs = 39% of real estate costs

Real estate costs = 10-15% of business costs

20% energy savings = 0.2-0.6% of business costs

Figures are typical, & vary depending on location and other factors

Data courtesy of:



Green Value: The Main Benefits?

1. Lower operation/maintenance costs
2. Energy & resource savings
3. Grants, subsidies, inducements etc.
4. Attract tenants faster (i.e. absorption)
5. Higher rents, investment/sale value
6. Lower turnover/vacancy
7. Reduced fitting-out costs (i.e. TI's)
8. Lower internal move costs (i.e. churn)
9. Increased productivity
10. Faster, better public process
11. Improved risk, marketability



Vancouver Island Technology Park, BC

Examples of Green Value I

- Pennsylvania Power and Light conversion's power savings:
 - ◆ Traditional:
4.1 yrs payback, **24% ROI**
 - ◆ Green Value:
69 days payback, **540% ROI**
 - ◆ Difference: largely productivity benefits
- Reno Post Office upgrade:
 - ◆ Improved productivity gains paid for the \$500,000 renovation in under a year
 - ◆ Annual energy savings a 'free bonus'



Mountain Equipment Co-op, Montreal

Examples of Green Value II



The Solaire, New York

- Hyde Tools' new lighting improves quality control
 - ◆ \$1 savings = \$10 in improved sales
 - ◆ Retrofit worth \$250,000 extra sales annually
 - ◆ Value "far exceeding fuel savings"
- VITP LEED® Gold benefits
 - ◆ Analysis shows 30% productivity increase
 - ◆ Project leased but the competition didn't
- City of Victoria Police
 - ◆ Staff suddenly falling ill
 - ◆ VOCs from adjacent development close offices
 - What's the cost...?
 - Just staff cost...?
 - ...or crime?

The Green Business Case

"A study by Sheffield University for NHS Estates compared patient outcomes in a newly refurbished orthopaedic unit at Poole hospital with those in a 1960s conventional ward.

The study found that patients treated on the refurbished ward required less analgesic medication than those on the older ward.

Patients not undergoing operations were **discharged** significantly more quickly from the newer ward – after **6.4 days** compared with **8.1 days.**"

Math

$8.1 \text{ days} \div 6.4 \text{ days} = 79\%$

$79\% = 21\%$ cost equivalent reduction

BC Healthcare = \$11bn/year

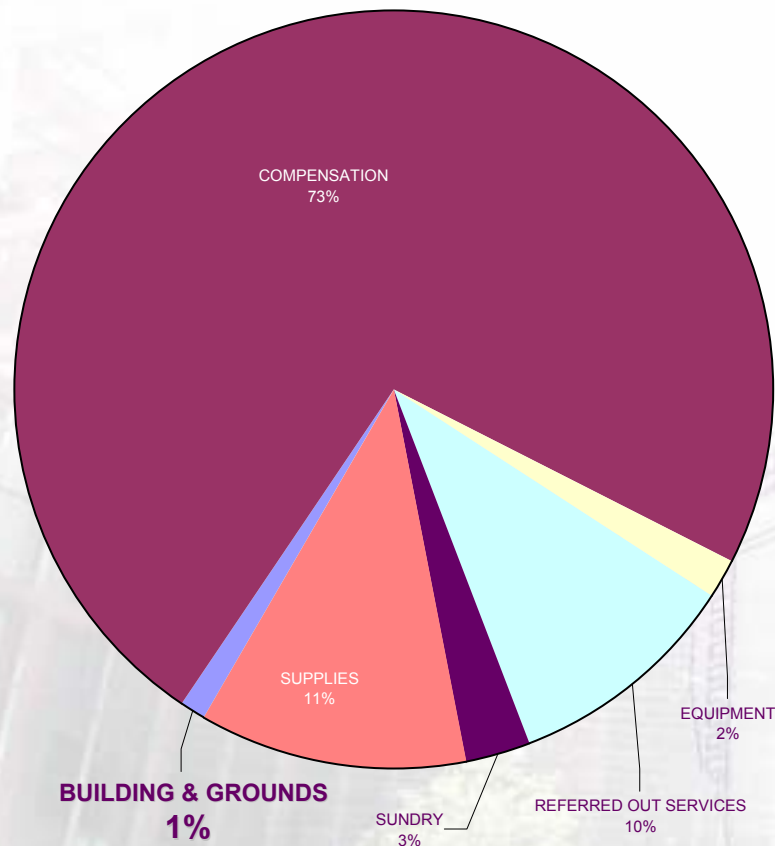
$\$11\text{bn} \times 21\% = \2.31bn savings/year!

...potentially.



The Value of Good Design – CABE 2002

The Largest Green Value



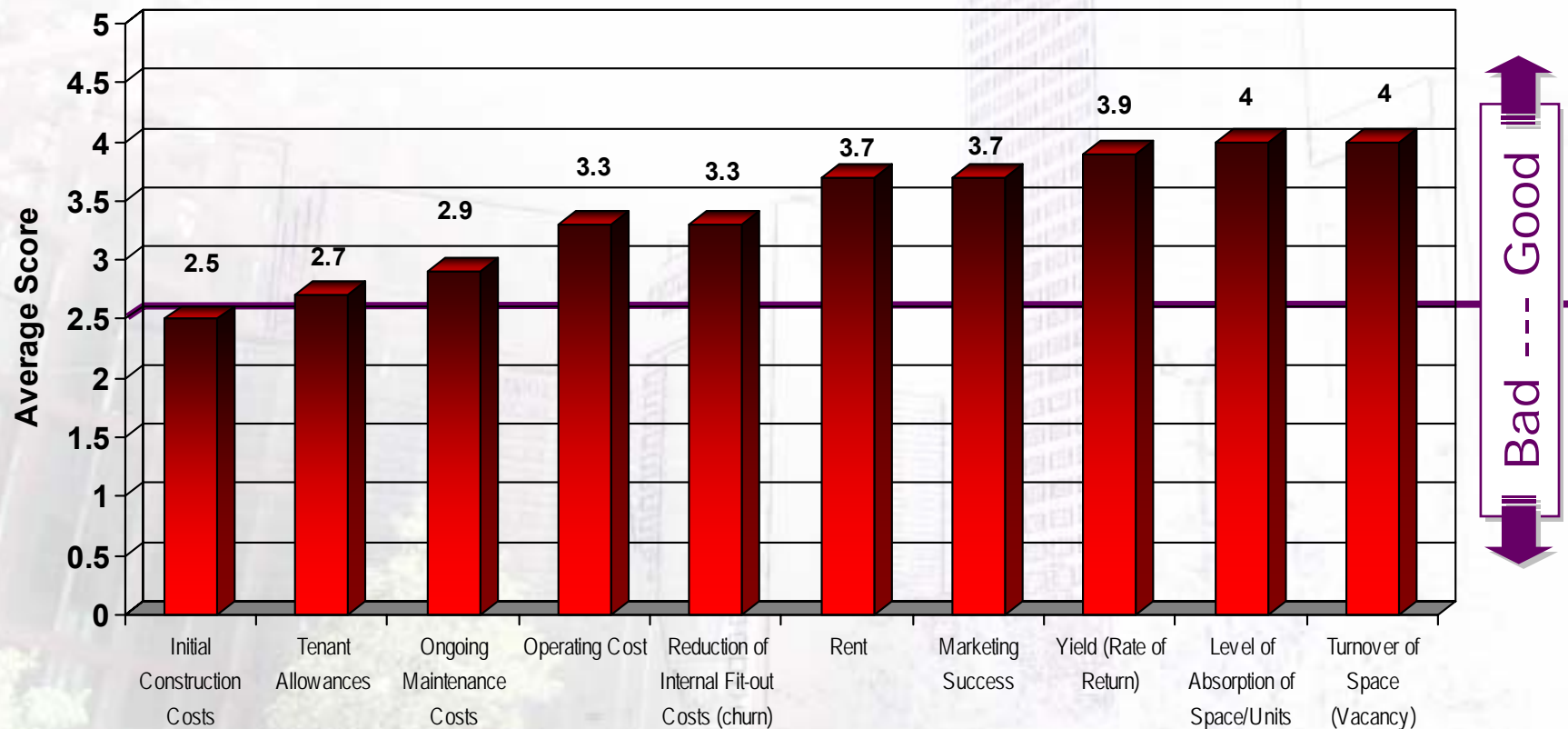
Typical BC Health Authority, 2001-2

- What's the priority?
 - ◆ The environment?
 - ◆ Society?
 - ◆ Energy, life cycle or costs?
- Productivity
 - ◆ Benefit is to the *occupier*
 - There *is* added value
 - Added value *can even exceed the value of the asset*
 - ◆ Competitive advantage
- The focus has to change
 - ◆ The big deal isn't savings...
 - ◆ ...it's Green Value
 - ◆ Think Triple Bottom Line

Survey: Financial Benefits

Question: Do you think the following items have fallen below, met or exceeded your expectations by going green?

1 – Not Met, 2 – Partially Met, 3 – Met, 4 – Partially Exceeded, 5 - Exceeded



Survey: Non-Financial Benefits

Question: In terms of occupation, how would you rank the net direct and indirect financial benefits of the project.

1 – Top Ranked, 2 – Second Ranked, 3 – Third Ranked, 4 – Fourth Ranked, 5 – Fifth Ranked



Null Hypothesis Disproved

- Original premise: "...no relationship between the market value of a real estate asset and its features and related performance..."
 - ◆ Disproved: There is a link
- Significant gap between the green buildings industry and the financial sector
 - ◆ Green buildings primarily benefit occupiers
 - ◆ Benefit to landlords and investors is currently less conclusive
 - ◆ Better financial and real estate sector inclusion needed

Green Value Overall Conclusions

- Contradiction, myth & fact proliferate
 - ◆ Value assertions from unqualified sources are unhelpful, foster distrust
 - ◆ Assertions unpersuasive, savings often marginal
- Main value conclusions
 - ◆ Green buildings enhance value
 - ◆ The real estate sector is barely engaged but pivotal to success
- Green buildings should:
 - ◆ Focus on the green business case
 - ◆ Focus on informing users
 - ◆ Bring greater involvement of the financial and real estate sectors
 - NB: don't *tell* them, *involve* them



Cranberry Commons, BC

Green Value Recommendations

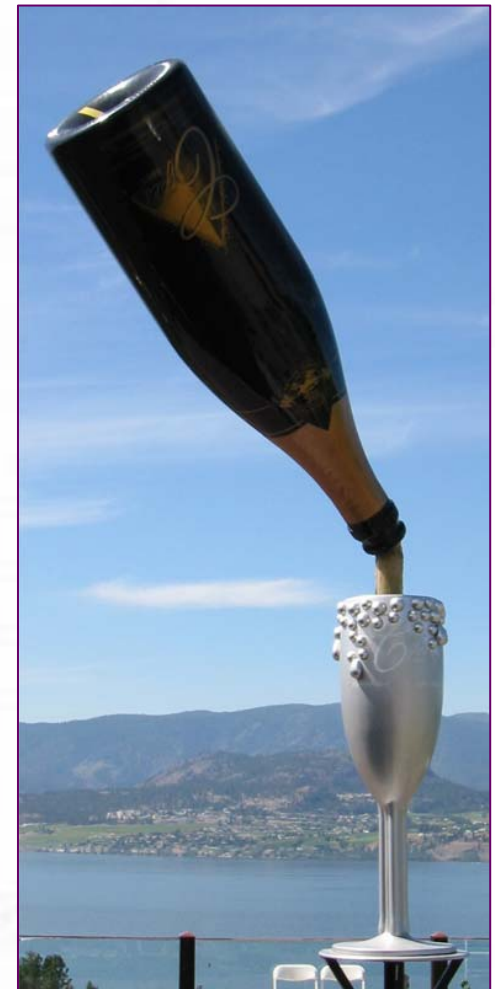
- 21 recommendations including...
 - ◆ Reconsider priorities for communicating Green Value
 - ◆ Strengthen the Third Bottom Line: Economics. It is more than just cost savings
 - ◆ Review how financial aspects can be enhanced, evaluated & communicated
 - ◆ Collect better evidence, make it widely available and target communicating the advantages in *financial* terms to the public and businesses
 - ◆ Involve lenders, appraisers, realtors & developers more cohesively. Use value in Integrated Design *prior* to audit
 - ◆ Improve and integrate green rating systems/standards, with improved accounting and valuation standards

Green Value Barriers

- "Costs more to build green"
- Occupant awareness & education
- Knowledge, research and resources not widespread
- What Green means is not widely understood
- Steep learning curve
- Construction companies lack experience
- Perception of risk amongst developers, lenders
- Not seen as a business benefit & paradigm shift
- Shortage of professionals with suitable experience
- Incentives questionable
- Savings/benefits unlinked from the investor/landlord
- Leases don't take account of green issues
- Insufficient understanding of value & appraisal
- Outdated regulations

Literature Review Conclusions

- Cost savings perhaps "somewhat fixated"
 - ◆ Value benefits being obscured
 - ◆ Improved life-cycle analysis needed
 - ◆ Both value & savings poorly & sometimes wrongly assessed
- Room for improvement
 - ◆ More & better qualified, published research
 - ◆ Improve integration of risk, finance, value
 - Real estate & financial sector green adoption is largely lagging
 - Research/analysis must be by the sector itself
 - Integration will increase value, broaden green building adoption
 - ◆ Clients must demand sustainable valuations
 - Relationship between asset value and green features is largely nascent



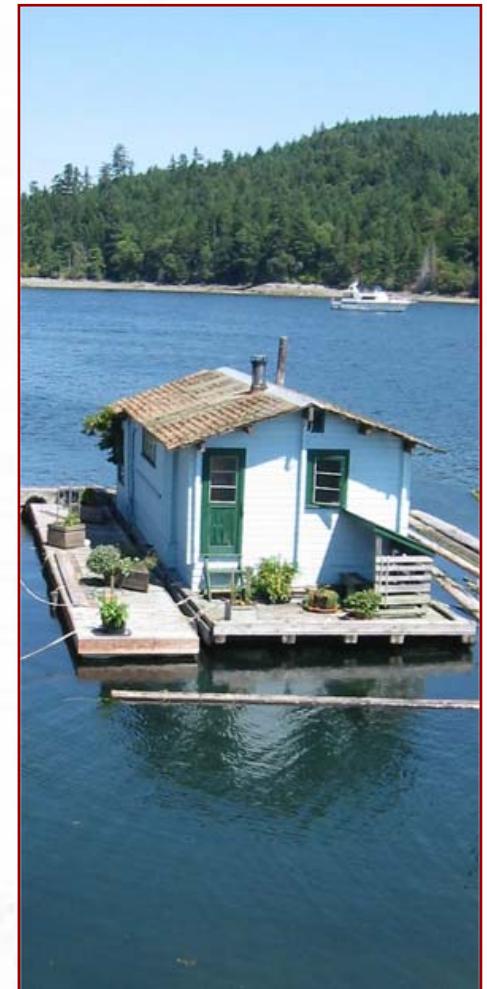
Social Value Conclusions

- Evidence of societal benefit
- Increased productivity
 - ◆ Enhanced health, well-being
 - ◆ Daylighting
 - ◆ Indoor Air Quality
 - ◆ Higher morale
 - ◆ Higher educational results
 - ◆ Reduced absenteeism
 - ◆ Faster health recovery
- Image
 - ◆ Improved aesthetics
 - ◆ Green can extol company ethics
- Needs tracking, audit



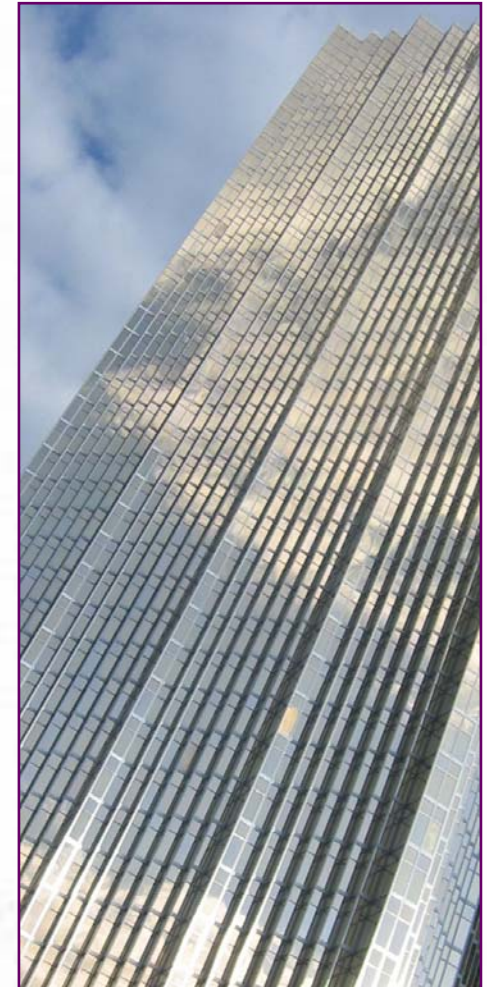
Ecological Value Conclusions

- Evidence of environmental benefit
 - ◆ Corporate Social Responsibility is increasing
 - ◆ Ecological benefit needs including in financially-oriented valuation standards
- Challenges
 - ◆ Proliferating myths over ecological benefits
 - ◆ Hard to quantify, audit, value
 - ◆ Demand for/audit of Triple Bottom Line on the corporate balance sheet
- Government role
 - ◆ Remove regulatory and legal barriers, codes, practices etc.
 - ◆ Reduce cost/time for Green Buildings
 - ◆ Inform the public of environmental, community & economic benefits



Financial Value Conclusions I

- Substantial net value benefit
 - ◆ Value is not where it is currently being portrayed
 - ◆ Cost savings are small vs. realisable value
 - ◆ *Shift the focus away from cost savings*
- Productivity & market value
 - ◆ Considerably exceed cost savings
 - ◆ Should stimulate corporate demand for Green Buildings
 - ◆ Competitive advantage
 - ◆ Secondary aspects need better documentation e.g. community benefit
- Valuation has a pivotal role
 - ◆ Integrate at green building design stage



Financial Value Conclusions II

- Green building financial performance needs...
 - ◆ Consistent valuation standards
 - ◆ Move away from cost approaches
 - ◆ Better understanding of distribution of costs and benefits
- Financial & non-financial aspects need...
 - ◆ More research, better education
 - ◆ Independent analysis, audit
- Triple Bottom Line stool has "one leg short"
 - ◆ Financial integration must be strengthened
 - ◆ Often left out or an afterthought
- Communicate green building benefits to...
 - ◆ Financial & real estate sector
 - ◆ Occupiers & the public



Valuation Methodologies

- Work needed to integrate sustainability into valuation approaches and standards
- Main approaches:
 - ◆ **Direct Comparison Approach:** Assesses value by comparing similar sales, leases
 - ◆ **Income Approach:** Capitalizes income after deducting the expenses. Includes development residual method
 - ◆ **Cost Approach:** Uses cost to estimate market value
 - ◆ **Alternate Approaches:** Triple Bottom Line, Full Cost Accounting, etc.
- Standards:
 - ◆ IVS, USPAP, CUSPAP, Red Book etc.
 - ◆ NB: global valuation impact on Green



Application: Dockside Green, Victoria, BC

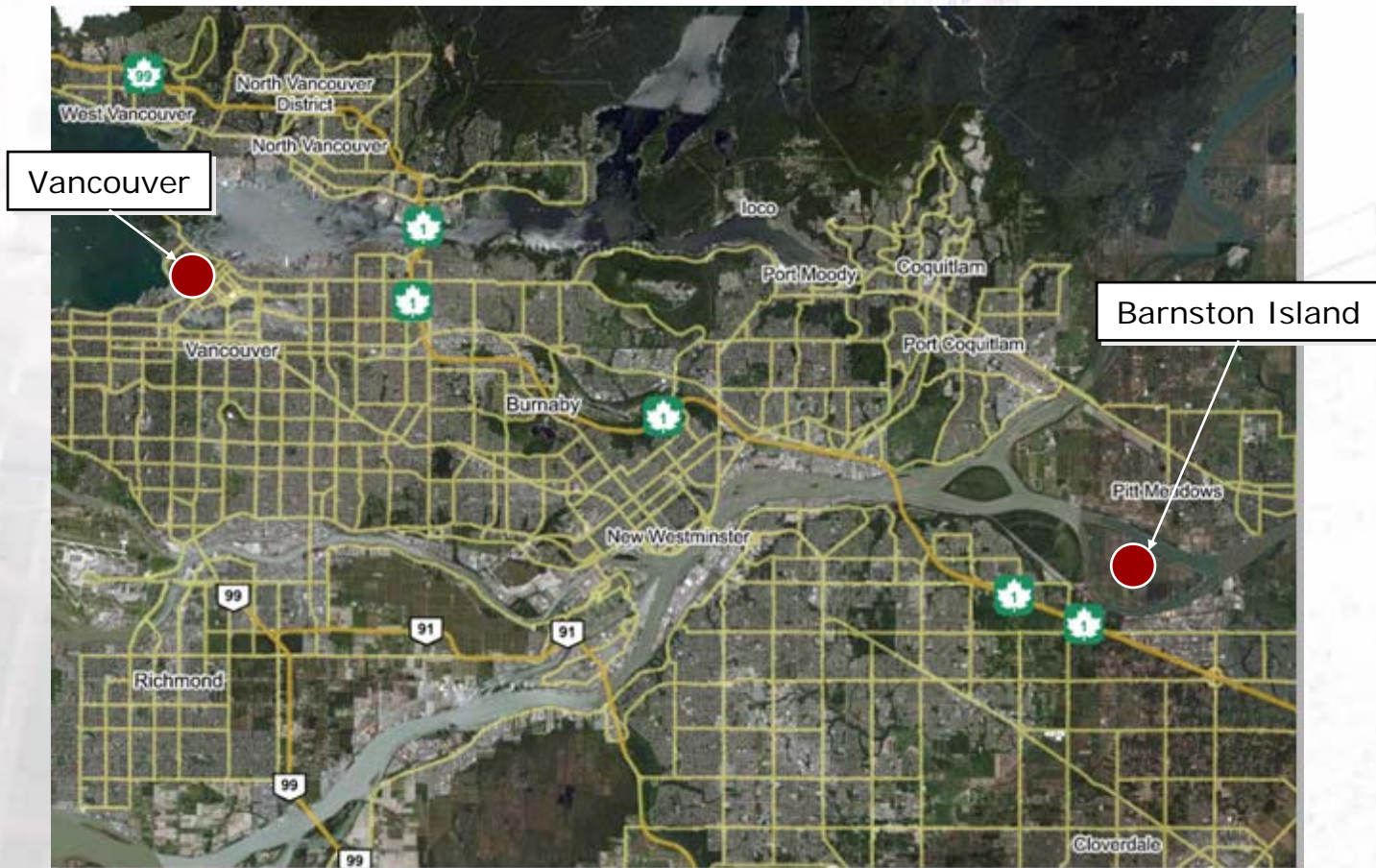


Dockside Green Value

- City-owned site
 - ◆ Brownfield industrial
 - ◆ Planning problem
 - ◆ Unviable: shifted focus to financial viability
- Proposal call
 - ◆ Triple bottom line evaluation matrix & award
- Winning proposal
 - ◆ Windmill Developments and Vancity Enterprise
 - ◆ Size: 1m sf multi use
 - ◆ Goal: LEED Platinum



Application: Barnston Island, Surrey, BC



Application: Barnston Island, Surrey, BC



Application: Barnston Island, Surrey, BC

	Triple Bottom Line Account Assessment						Summary: Favours Agricultural Use
	Agricultural Use			Green Industrial Use			
	Social	Environmental	Economic	Social	Environmental	Economic	
Local Government Act s.849							
(a) avoiding urban sprawl and ensuring that development takes place where adequate facilities exist or can be provided in a timely, economic and efficient manner;	▼	▼	▼▼▼	▲▲	▲	▲▲▲	11▼
(b) settlement patterns that minimize the use of automobiles and encourage walking, bicycling and the efficient use of public transit;	▼	▼	▼▼	▼	▼		2▼
(c) the efficient movement of goods and people while making effective use of transportation and utility corridors;	▼▼	▼▼	▼▼▼▼	▲▲	▲	▲▲▲▲	15▼
(d) protecting environmentally sensitive areas;	▲	▲▲	▼	▼	▼▼	▼	6▲
(e) maintaining the integrity of a secure and productive resource base, including the agricultural land reserve;		▲	▼	▲	▲	▲▲	4▼
(f) economic development that supports the unique character of communities;	▼	▼	▼▼	▲	▲	▲▲	8▼
(g) reducing and preventing air, land and water pollution;		▼	▼		▲	▲	4▼
(h) adequate, affordable and appropriate housing;							—
(i) adequate inventories of suitable land and resources for future settlement;	▲	▲	▼	▲	▲	▲▲	3▼
(j) protecting the quality and quantity of ground water and surface water;		▼					1▼
(k) settlement patterns that minimize the risks associated with natural hazards;					▼	▼	2▲
(l) preserving, creating and linking urban and rural open space including parks and recreation areas;	▼	▼		▲	▲	▲	5▼
(m) planning for energy supply and promoting efficient use, conservation and alternative forms of energy;			▼		▲	▲	3▼
(n) good stewardship of land, sites and structures with cultural heritage value.		▲	▼	▲	▲▲	▲▲▲	6▼
Ecological							
Potable water consumption	▼▼	▼	▼	▲	▲	▲	7▼
Riparian health- island shore & island streams/wetlands		▼					1▼
Habitat impact- terrestrial and aquatic		▼▼		▲▲▲	▲▲▲▲	▲▲	11▼
Water quality		▼			▲		3▼
Air quality	▲	▲▲	▼		▲▲		1▲
Rainwater & groundwater management		▼	▼		▲	▲	4▼
Wastewater discharge		—					—
Energy consumption		—			▲	▲	2▼
Ability to utilize others' waste as a resource		—	—	▲	▲▲	▲	4▼

Green Value

- Resources available online
 - ◆ Summary Findings
 - ◆ Report
 - ◆ Detailed Case Studies
 - ◆ Presentations

www.rics.org/greenvalue

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