Marketing Green Buildings to Owners

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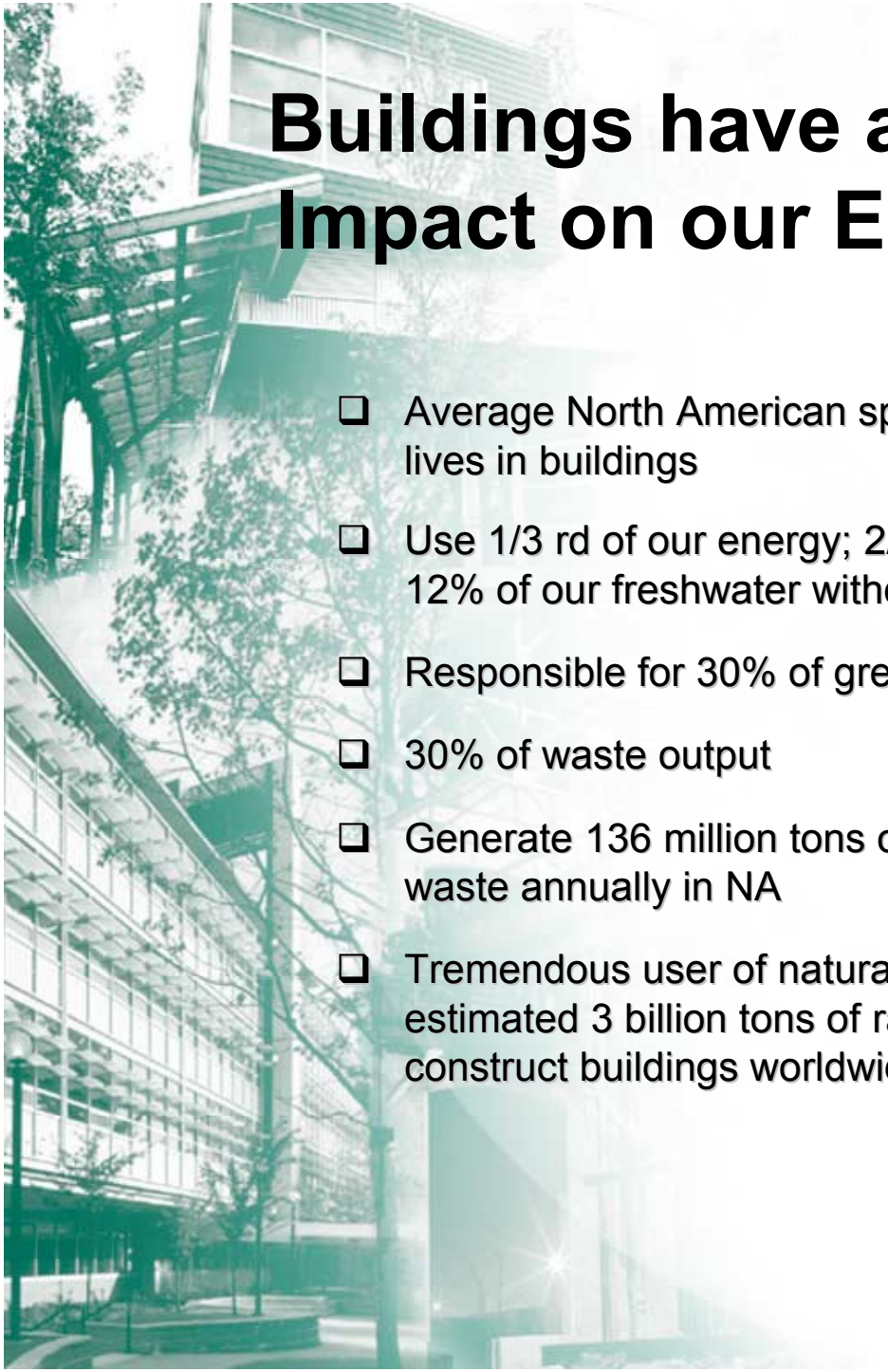
August 27th , 2002

Sustainable Design of Canadian Buildings
SDCB 201 – Green Building Tools and Techniques

Marketing Green Buildings to Owners

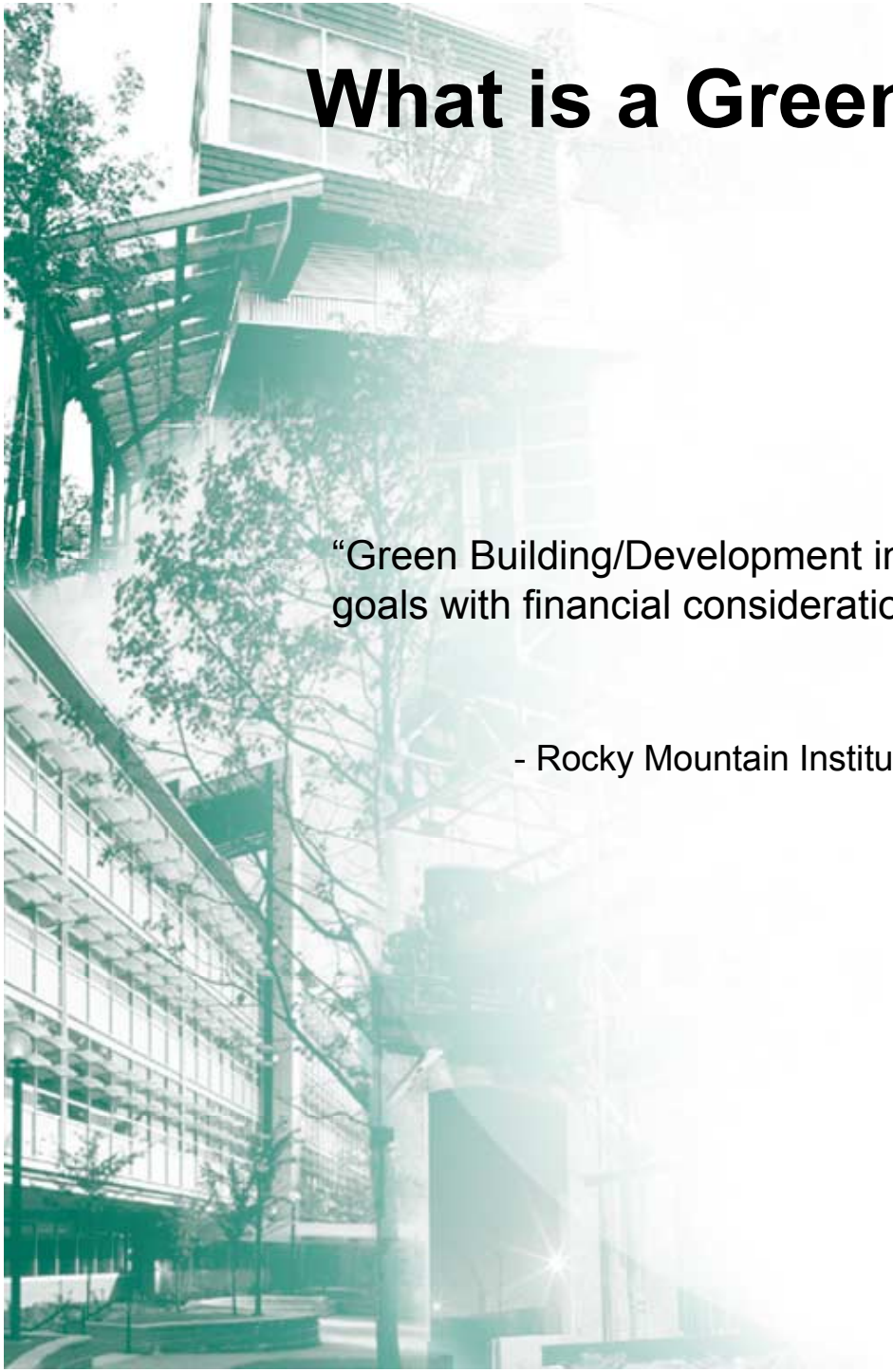
- What is a Green Building?
- Marketing Green Building Benefits to Owners
- Other Economic Benefits (creation of sustainable communities & economic opportunity)
- The need for Tools



Buildings have a significant Impact on our Environment

- Average North American spends 80 to 90% of their lives in buildings
- Use 1/3 rd of our energy; 2/3rds of our electricity and 12% of our freshwater withdrawals
- Responsible for 30% of greenhouse gas emissions
- 30% of waste output
- Generate 136 million tons of construction & demolition waste annually in NA
- Tremendous user of natural resources using an estimated 3 billion tons of raw materials annually to construct buildings worldwide

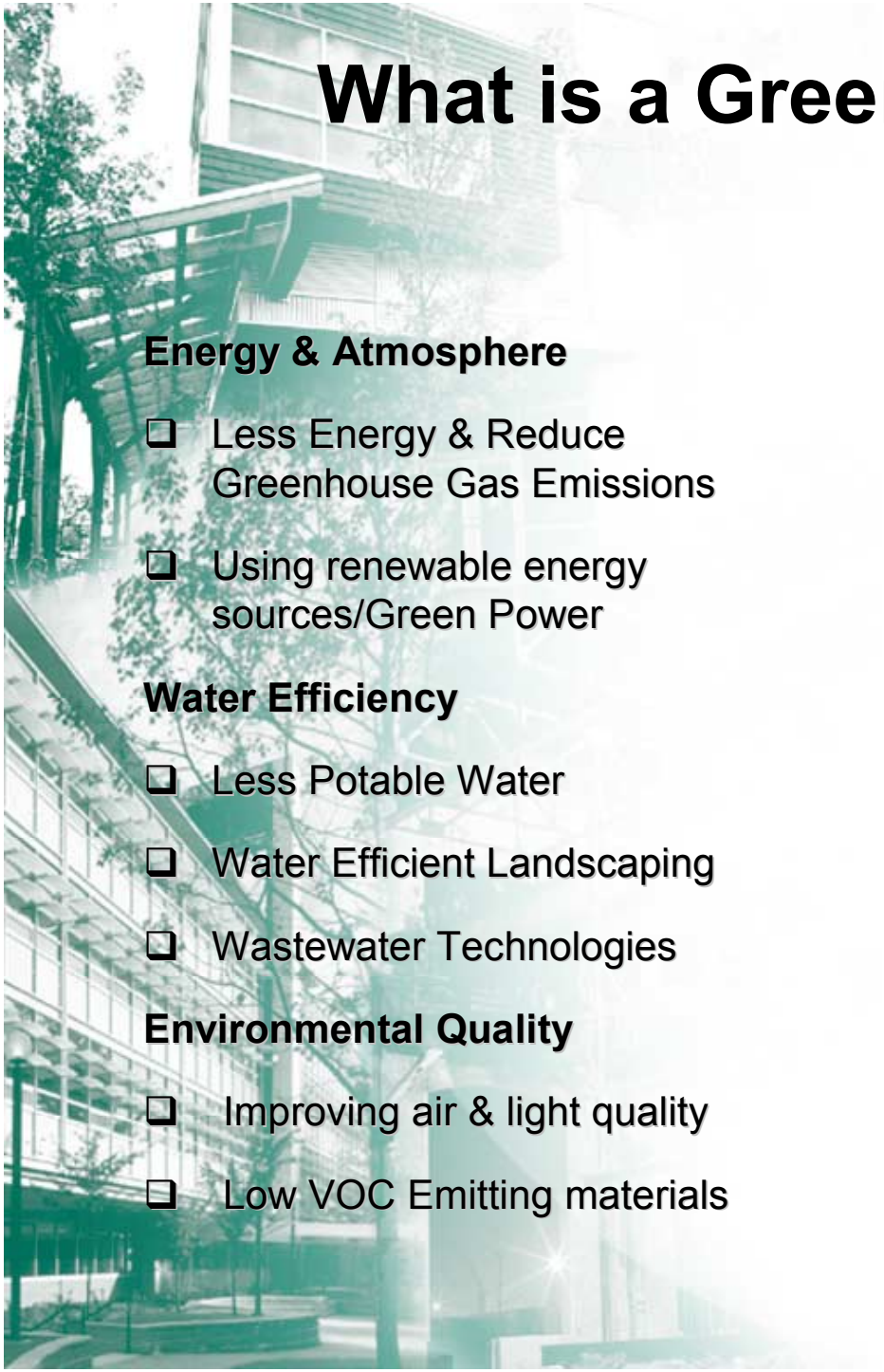
What is a Green Building?



"Green Building/Development integrate social & environmental goals with financial considerations in real estate projects"

- Rocky Mountain Institute

What is a Green Building?



Energy & Atmosphere

- Less Energy & Reduce Greenhouse Gas Emissions
- Using renewable energy sources/Green Power

Water Efficiency

- Less Potable Water
- Water Efficient Landscaping
- Wastewater Technologies

Environmental Quality

- Improving air & light quality
- Low VOC Emitting materials

Materials

- Using less Materials & Resources - Building reuse
- Purchasing Local Materials & Materials w/recycled content
- Reducing Construction Waste/ Recycling efforts

Sustainable Sites

- Site Impacts / The Restoration of Habitat
- Treating & Retention of Storm water
- Light Pollution/ Heat Island Impact
- Reducing our dependency on the Automobile & much more

Marketing Green Buildings to Owners?

- Who are the Owners?
- Key Concepts to Understand -Educating Owners
- Marketing the Benefits of Green Buildings to Owners?
- Leveraging your Business
- The Need For Tools

Who the Owners?

Private Sector/Public Sector

- Owned Buildings

Example Inuit Canada

Architects: Manasc Isaac

Cost $110/ $65000 per year energy

- Leased/Spec Buildings

Decision to Build Green came after budget & schedule were set

Project built on time and on budget

LEED
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Key Concepts to Understand – Educating Owners

☑ Market to all Owner types

A building is more than the sum of its parts, it is a set of interrelated systems

> "Optimizing individual building components in isolation tends to pessimism the whole system"
>
> Hawken, A. Lovins, H. Lovins, *Natural Capitalism*

– Dallas Courthouse Example

– VITP Tenant Improvement Example

Lighting & Design

Key Concepts to Understand – Educating Owners

Market to all Owner types

Often Costs Less to Save a lot of Energy than a little Energy

"Tunnelling through the Cost Barrier"
- A. Lovins, Rocky Mountain Institute

– VITP Example – Air Conditioning

% of cost contracts w/ architects/engineers are counter productive to a green building design process

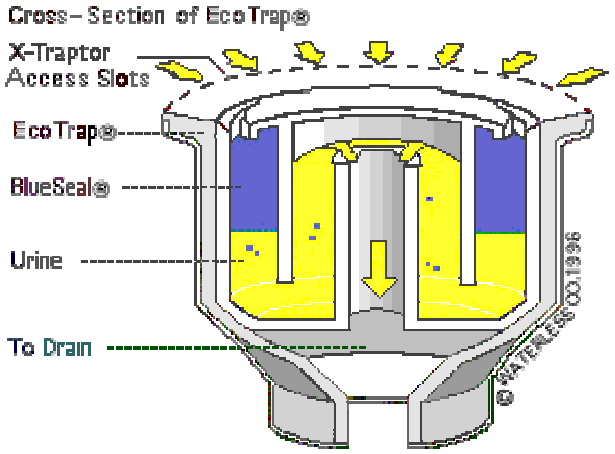
" A Partner in design motivated for best value"

Key Concepts to Understand – Educating Owners

- Market to all Owner types

Whole System Costing

-VITP Example – Water Less Urinals



-VITP Example -Lighting/heating loads

Key Concepts to Understand – Educating Owners

- Market to all Owner types

Integrated Design is Essential!!!!

"brings people together early in the design process to ensure building components are designed to working together and not against each other"

"When 7% of project costs are spent, up to 85% of life-cycle costs have been committed"

A different Mindset is Required

Look to Environmental & Non-Engineering Solution

"Think outside the Box"

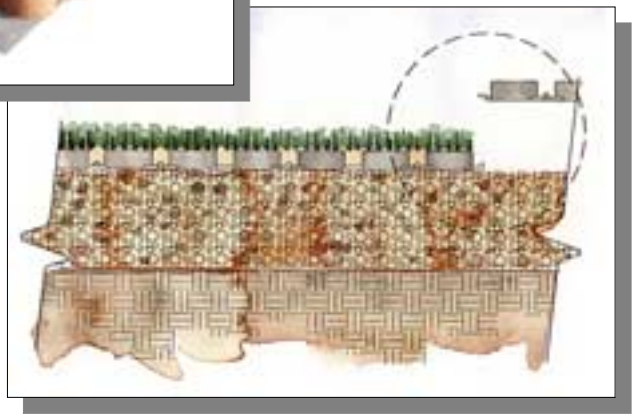
Marketing the Benefits of Green Buildings

- Capital Costs
- Save Future Capital Costs
- Save Operating Costs
- Future Proofing
- Better Health & Worker Productivity
- Reduced Liability Risk
- Improved Community Relations/Accelerate Approvals
- Improved Marketing & Absorption

Save Capital Costs

Market to all Owner types

VITP Example: Grass Pave/ Gravel Pave Parking (manufactured in Victoria)



Whole System Costing

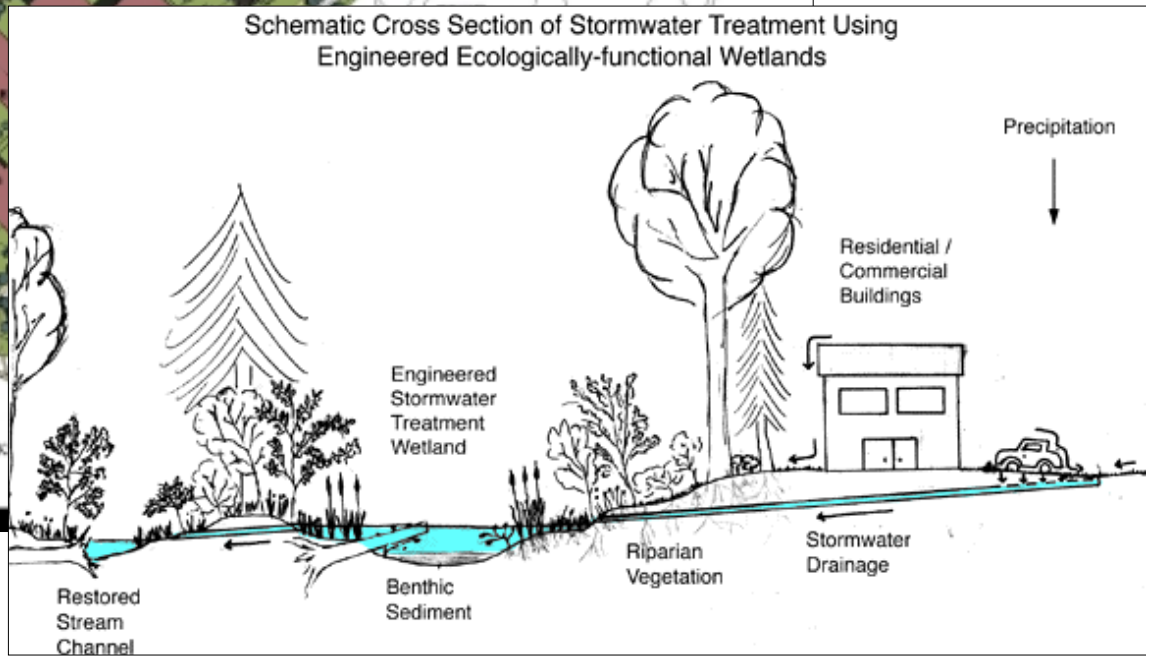
Think outside the Box "Environmental objective to buy locally saved $"

- groundwater recharge, reduce runoff, reduce heat island impact, purchase locally

Save Capital Costs

VITP example: Storm Water Management

Look to the Environment for solutions



Save Capital Costs

VITP Examples:

Process Loads

Light pollution

Think outside the Box

"non-engineering solution"

Save Capital Costs

VITP Examples:

Building Reuse –100% building structure &
91% of Shell reused

Construction Waste – 99% salvaged ($600,000 saving)

Look to the Environment objectives for solutions to save $

Save Capital Costs

Materials Salvaged for Reuse
– 23% of Material Cost

- Roof tile
- Ductwork / Portion of Mechanical System
- River Rock
- Misc. Alarm pulls, lighting, doors

Look to Environment Objectives for solutions
Save $

Reused Topsoil

Recycled Materials – 33% of material cost
e.g. flyash

Local Materials – 54% of material
Cost Manufactured Locally
within 500 miles.

Save Future Costs

- Important for Private & Public Sector for Phased Developments

VITP Example: Water efficiency
Impacts water & sewer infrastructure & Saves operating costs

Waterless urinals

Ultra low flow, dual flush toilets

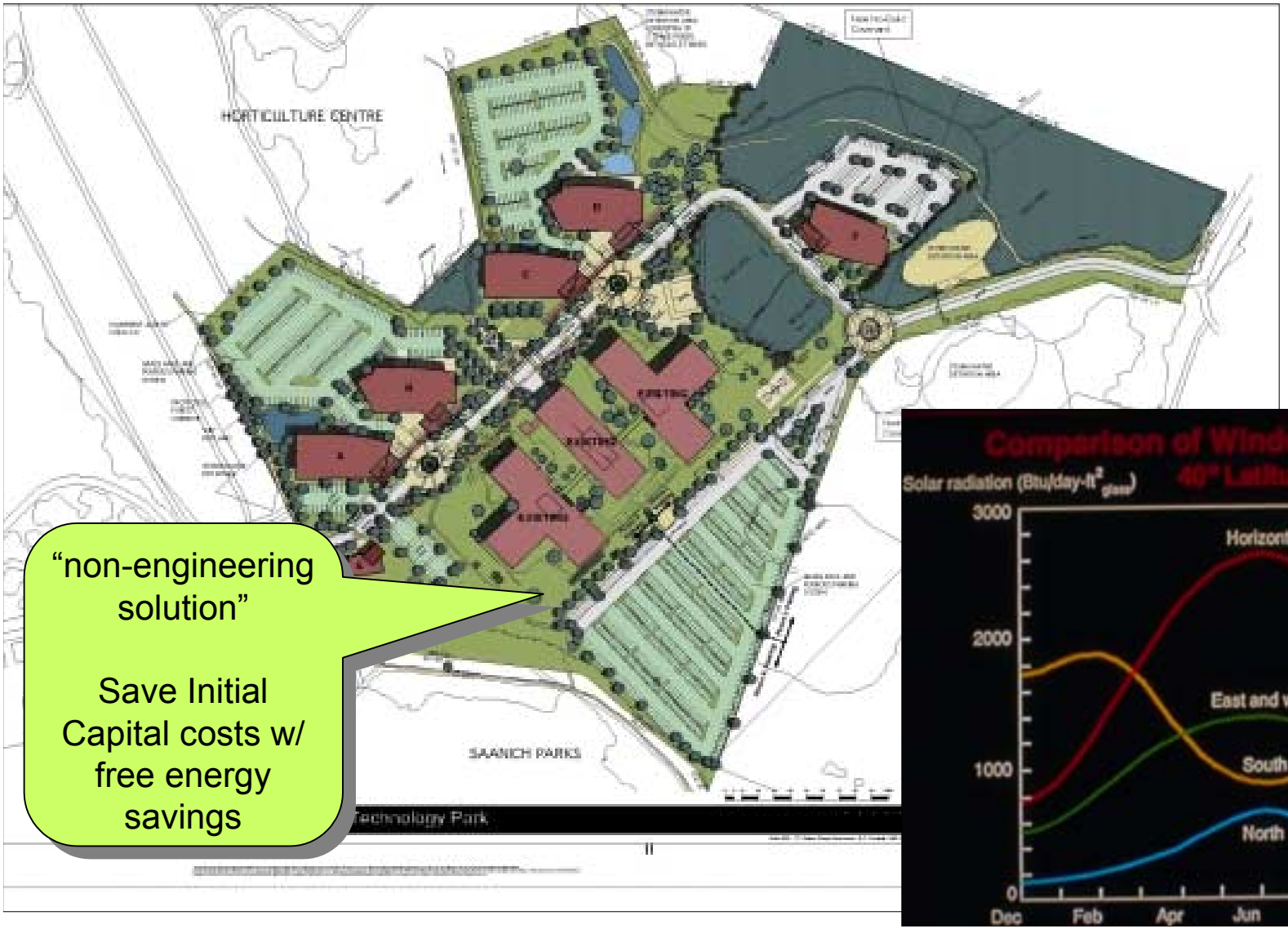
Sinks – infrared sensors
– aerator taps

Showers – flow restrictors

"non-engineering solution"

Save Future Capital Costs

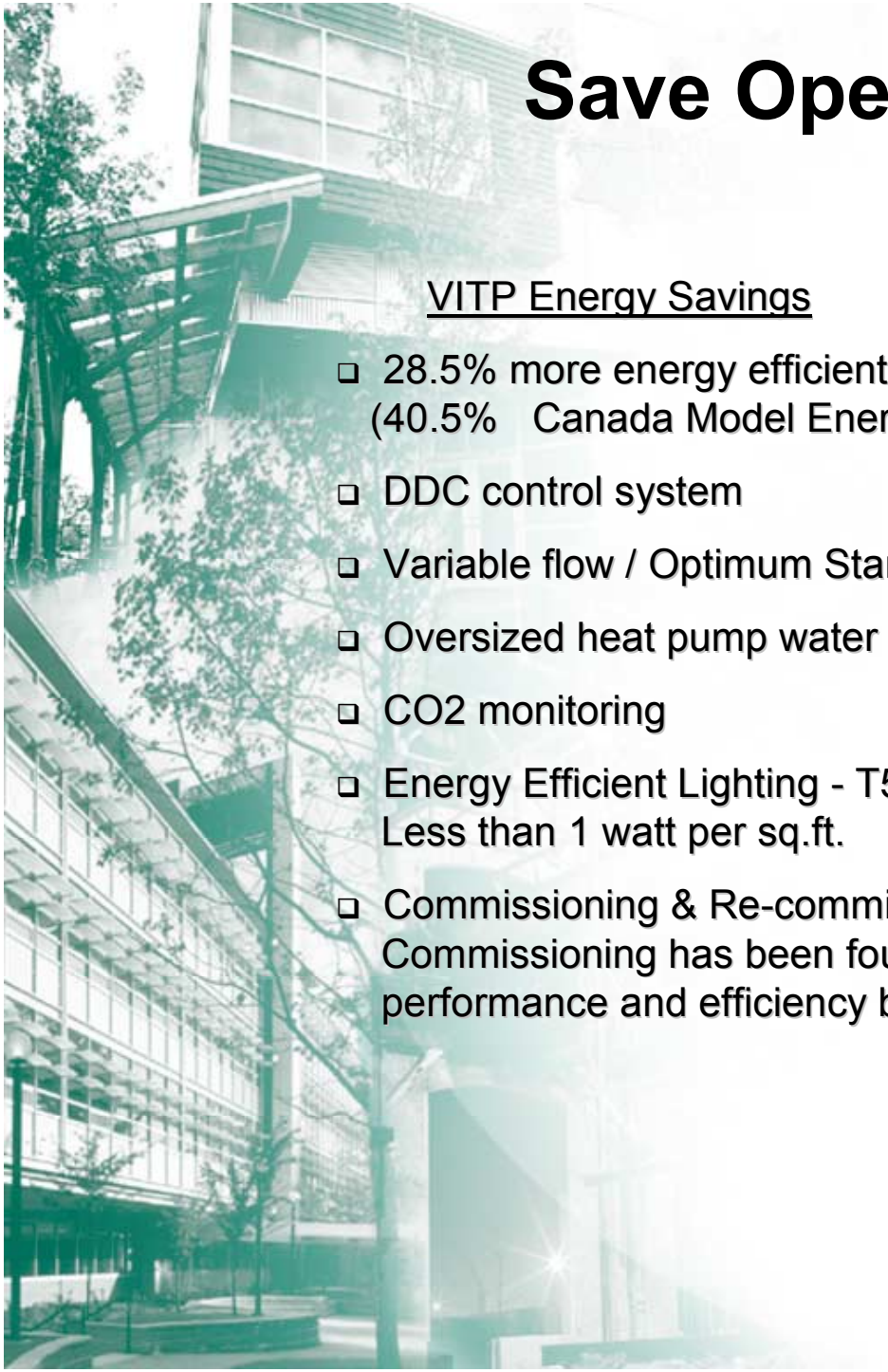
VITP Example: Passive Solar Gains



"non-engineering solution"

Save Initial Capital costs w/ free energy savings

Save Operating Costs



VITP Energy Savings

- 28.5% more energy efficient than ASHRAE 90.1 (40.5% Canada Model Energy Code)
- DDC control system
- Variable flow / Optimum Start
- Oversized heat pump water loop piping
- CO2 monitoring
- Energy Efficient Lighting - T5 –56 watts per fixture Less than 1 watt per sq.ft.
- Commissioning & Re-commissioning Commissioning has been found to optimize energy performance and efficiency by 5 to 10%

Save Operating Costs

VITP Operating Savings:

energy savings - $30,000 / water savings - $5,000

– Operating Savings are significant to Private & Public Sector Owned Buildings

– Leased/Spec Buildings – More difficult buy in. Different Marketing approach needed to demonstrate savings to get increased rental rates achieved

Save Operating Costs

Investigate Life Cycle Costing Techniques
- Invest capital for operating savings with high payback

– Easiest for Private Sector Owned Buildings

– Depends for Public Sector Owned Buildings – some governments have mental block of spending capital even if there is a fast back. However this is changing

– Leased/Spec Buildings – More difficult for buy in.

Different Mktg approach needed to demonstrate savings to get increased rental rates achieved / Gross Leases an option

Save Operating Costs

Increase Building Value

Appraised Value of Operating Costs/ Increased Mortgage

Valuation of Savings

$35,000 savings / 10% Capitalization Rate = $350,000 increased Value Based on 75% mortgage equals $262,000 extra mortgage)

Public Companies trade on Multiplies of Earnings – $35,000 *15 = $560,000 increased stock value

- Very attractive to Private Sector Owned Buildings

- Very attractive to Private Sector Leased/Spec buildings if higher rents can be demonstrated to capture operating savings – Appraiser needs to be convinced – More likely to happen on refinancing

? - May or May not be an issue for public buildings

Future Proofing

- Utility costs likely to rise –

> " A Green buildings help ensures the building will not be at a competitive advantage in the future while giving them a competitive advantage today"

- Protects against new insurance rules/guidelines/premiums
- Protects against future environmental regulations

Green Roof installed at Ford Dearborn Plant

Cost $12 million removed $50 million contingent

Liability under clean water act provisions.

VITP Technique

Rainwater collection system Infrastructure
Installed in the event of water rate increase

Future Proofing

Public Sector Buildings

Higher bond rating = Better Interest rate/ Lower future operating costs

Private Sector

Owned buildings – Benefit from future cost savings

Spec buildings - More about a marketing feature

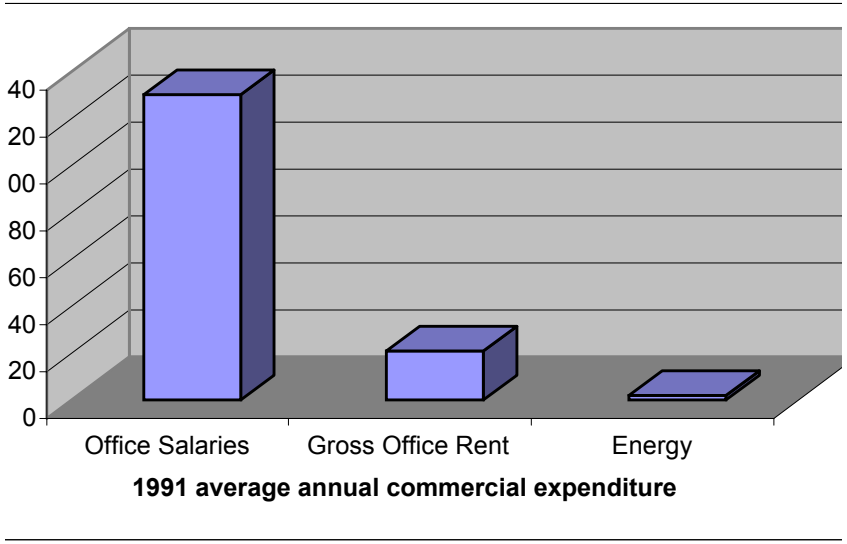
Other possible benefits: Better Interest rate/Green Mortgages/higher evaluation

Does Future Proofing justify Lower Capitalization Rate?

160,000 sq.ft. x $10 net rent / (10%-9.75%) = $421,000

Better Health & Worker Productivity

- EPA study estimated that $60 billion lost in worker productivity because of building sickness
- Studies have shown that improved lighting, thermal comfort & air quality, often byproducts of energy efficiency, increases worker productivity by 6 to 16%



Market to all Owners-

For Spec/Leased buildings this is more of a Marketing feature

Public Buildings- improve worker relations/health care/academic scores etc

Reduced Liability Risk

Law suits emerging because of building sickness

- Market to all Owner Types
  - – EPA lost a $1 million lawsuit from Employees because of building sickness
  - – Stress Importance of material selection – part of architectural specs.

VITP Techniques:

- Adhesives, sealants, paints, carpet and composite wood products specified to have low VOC limits.
- CO2 monitoring
- LEED air exchange guidelines

Improved Community Relations / Accelerate Approvals

Undertook Green Building Design before asking for anything!

VITP Example:

Improved Community Relations / Accelerate Approvals

VITP Example:

"Mind the Gold"

Improved Marketability of Project

Transit Service

Bike Paths/ Walking Trails

180 bike racks (80 in Bldg) w/ showers

Preferred Car Pooling stalls – 25 stalls

Sustainable Transportation Study

Improved Community Relations/ Accelerated Approvals

- Market to all Owners

Highest Risk often in getting Approvals

Be Sincere/ Listen / Have Integrity

Use of Rating Systems – LEED can be very important to establish credibility

VITP Experience

No Environmental/Social Review study required

Increased density, increased commercial uses: restaurants, support services

No community opposition to project on zoning changes

Improved Marketing & Absorption

Market to all Owners

- Improved Marketability & Absorption
  - Reaction of market/tenants
  - Distinguishes the project in the Market Place
  - Productivity Gains
  - Attracting/Retention of Employees
  - Corporate Image

- Highlight Green Features to Occupants
  - Indoor Air/Light Quality

    e.g. indirect lighting/ Daylighting/ features/future proofing etc

Improved Marketing & Absorption

- Market to all Owners

- Free Press
  - Corporate Image
  - Consider marketing savings in project budgets

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Boma BC Earth Award

Improved Marketing & Absorption

Look for Marketing Opportunities

Do something unique

Understand Community Issues

VITP Example: Used local horticultural school to design & plant native plants, decommissioned lawn irrigation – no outside irrigation

Understand your Neighbors

Improved Marketing & Absorption

Look for Marketing Opportunities

Created Business Centre on Site

– demonstrated lighting/
flexible techniques

Leveraging Your Business

Understand your Client & Basic Real Estate Objectives

– Look for Marketing Opportunities & Community Relations

Use rating system even if your client doesn't see the value in measuring performance & leveraging your business

– Create Economic Value VITP Examples:

Higher Rental Rates ???
160,000 sq.ft. x $1 net rent / 10% = $1,600,000

Green Buildings contribute to a Sustainable Community

Public Sector

Private Sector may not view this as important

Quality of Life

A sustainable community means both economically and environmentally sustainable as they are directly linked and intertwined.

Example

Greater Victoria's tourism and high tech sector are absolutely dependent upon the preservation of our quality of life and this preservation and enhancement is essential to our economic prosperity.

Green Buildings Lower Municipal Infrastructure Costs

- ✓ Public Sector – Municipal governments are paying more attention to this issue.
- ? Private Sector may not view this as important - Important to explain to them because it can save them money.

Example

Low flush fixtures can eliminate the need for water and sewer infrastructure upgrades

Caroma experience in Australia

Green Buildings Can Lead to Economic Opportunity

Green Buildings

- Grass Pave Manufactured by Scott Plastics in Victoria
- Waterless Urinals now being made in Ontario
- Hartland Land fill site – Green Power from Landfill Site

☑ Market to Public Sector

The Need for Tools

Green Building Rating System:
LEED - **L**eadership in **E**nergy & **E**nvironmental **D**esign

- **Sustainable Sites 14 Pts**
  - brownfield redevelopment
  - alternative transportation
  - reduced site disturbance
  - stormwater management
  - light pollution reduction
- **Water Efficiency 5 Pts**
  - water efficient landscaping
  - innovative wastewater technologies
  - water use reduction
- **Energy & Atmosphere 17 Pts**
  - optimize energy performance
  - renewable energy contribution
  - green power
  - elimination of HCFC's and Halons
- **Materials & Resources 13Pts**
  - building reuse
  - construction waste management
  - recycled content
  - local / regional materials
  - certified wood
- **Environmental Quality 15 Pts**
  - carbon dioxide monitoring
  - increase ventilation effectiveness
  - low emitting materials
  - controllability of systems
  - thermal comfort
- **Design Excellence 5 Pts**
  - innovation in design
  - LEED accredited professional

Green Buildings

For More Information

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