Maximizing Environmental and Financial Performance

Presentation to the
Forest Trend Conference

Vancouver, BC
October 4, 2000
Agenda:

I. The Financial World’s Traditional View of the Environment

II. The Link between Environmental and Financial Performance: EcoValue’21

III. The EcoValue’21 Analysis Process

IV. The Forest Products Industry
Financial Analyst’s View of the Environment:

- Environmental expenditures reduce profitability
- Therefore, minimize environmental expenditures
- Environment is primarily a risk management issue
- Fiduciary responsibility to maximize returns precludes consideration of social/ethical issues, such as the environment
Changing Viewpoint:

- Nearly all academic and business studies show a positive correlation between environmental and stock market performance.

- Correlation exists because environmental performance is an excellent proxy for management quality.

- Management quality is the leading determinate of stock market performance.
Changing Viewpoint:

- Environment is one of the most complex challenges facing management
- High level of uncertainty
- Many issues, stakeholders and non-financial measures
- Effectiveness in dealing with this level of complexity implies ability to handle other business areas well
- Yields superior financial and stock market performance
Managing Downside Risk:

- **Market risk** (corporate reputation and image, reduced customer acceptance, potential loss of “social license to do business.”)

- **Operating risk** (emissions and discharge risk, product liability risk, required process changes)

- **Balance sheet risk** (historic liabilities, impairment of real property values, underwriting losses).

- **Capital cost risk** (pollution control expenditures, product redesign costs).

- **Transaction risk** (potential cost of time, money, and delayed or canceled acquisitions or divestitures).

- **Business sustainability risk** (potential competitive risk from lack of efficiency/sustainability in energy, materials, and resource use).
The Link Between Environmental & Financial Performance: EcoValue’21™

ENVIRONMENTAL PERFORMANCE DRIVES SHAREHOLDER VALUE

Shareholder Value
- Dividends
- Share Price
- Earnings Quality

COMPETITIVE ADVANTAGE

CRITICAL VALUE DRIVERS
- Sales/Market
- Cost Containment
- Share Growth
- Franchise Value
- Stakeholder Satisfaction
- Innovation Capacity

ENVIRONMENTAL OUT-PERFORMANCE
Why Investors Need Eco-Efficiency Metrics

Factors increasing the “eco-efficiency premium” in future:

- Tightening global and domestic regulatory pressures
- Changing consumer demographics/investment patterns
- Growing financial and competitive benefits to industrial companies
- Increasing institutional investor awareness
- Global population/resource consumption pressure
- Growing information transparency

Increased “Eco-Efficiency” Premium
What does the Investor/Analyst Really Need?

Problem for Investors:
Environmental information, at this stage, is often:

- Lagged, inaccurate, biased, missing
- Confusing
- Unevenly reported across companies, sectors, countries
- Hard to interpret

Investors need credible, third party, expert analysis to simplify their own job of analyzing companies relative to industry peers.
Innovest Strategic Value Advisors

• A leading-edge international investment advisory firm with offices in New York, Toronto and London.

• Using the EcoValue’21™ environmental performance rating system, Innovest has rated over 1,200 large, publicly-held companies in the US, Canada, Europe and Asia.

• We provide company profiles, research reports and custom portfolio analysis to financial institutions, endowments, foundations, pension funds and investment funds.

• Research is based on the evidence that eco-efficiency is a proxy for, and predictor of, superior corporate management, which generates superior financial performance & shareholder value.
Who We Are:
Innovest Strategic Value Advisors

Directors and Senior Advisors:

James Martin: Chairman (former Chief Investment Officer, TIAA-CREF)

David Van Pelt: Vice-Chairman (former Executive V.P., Citibank)

Arthur Lipper (co-founder, Lipper Analytical Services)

Alan Silberstein (former CEO, Travelers Property & Casualty Insurance Group subsidiary, Executive V.P., Chemical Bank)

Lord Michael Sandberg (former World Chairman, Hong Kong and Shanghai Bank)

Rt. Hon. Lord Nigel Lawson (former Chancellor of the Exchequer, United Kingdom)
Our Model, Briefly

EcoVALUE '21 analyzes over 60 key variables using over 20 data sources:

**Historical Contingent Liabilities:**
- Superfund
- State and hazardous waste sites
- RCRA
- Toxic torts

**Operating Risk Exposure:**
- Toxic emissions
- Product risk liabilities
- Hazardous waste disposal
- Waste discharges
- Supply chain management risk

**Eco-Efficiency and Sustainability Risk:**
- Energy intensity and efficiency
- Raw materials & natural efficiency and intensity
- Product life-cycle durability and recyclability
- Exposure to shifts in consumer values

**Managerial Risk Efficiency Capacity**
- Strategic corporate governance capability
- Environmental management systems strength
- Environmental audit/accounting capacity
- Supply chain management
- Training capacity and intensity
- Generic environmental management protocols
- Industry-specific protocols

**Strategic Profit Opportunities**
- Ability to profit from environmentally-driven industry and market trends
Key variables are summarized in a Scoring Matrix.

Raw scores are weighted using Innovest’s proprietary algorithms, and a final score is generated).

This score is based on the company’s environmental performance relative to its competitive set.

In this case, SCA received the highest score in the Forest Products sector.

The scores are converted to alphabetical ratings similar to the familiar ratings on corporate bonds (from AAA - best to CCC - worst).
EcoVALUE’21™ Sample Results: Petroleum Sector

EcoValue ‘21 - Petroleum Subset
3-98 to 2-99 Stock Performance
Top Half vs. Bottom Half

Difference: -0.9% 0.7% 3.4% 2.4% 4.3% 5.5% 8.1% 6.7% 6.5% 5.3% 5.8% 5.9% 9.6% 8.3% 5.2% 6.9% 5.4% 6.7% 7.5% 10.2% 15.1% 16.0% 12.6% 16.8% 17.4% 17.0%

Top Half Average: 0.9% 7.0% 7.7% 7.5% 10.2% 8.9% 6.6% 3.5% 6.1% 3.2% 1.1% -4.5% 1.6% 1.3% 3.1% 0.4% -1.4% 2.6% -0.8% -1.2% 0.7% 1.6% -1.8% 5.6% -3.5% -7.7%

Bottom Half Average: 1.8% 6.4% 4.2% 5.1% 5.9% 3.4% 1.5% 3.2% 0.4% 2.1% 4.6% 10.3% 8.0% 7.0% 2.1% 6.5% 6.8% 4.1% 4.3% -1.4% -1.4% -1.4% -1.4% -22.4% -20.9% -24.7%
EcoVALUE’21™ Sample Results: Chemical Sector

EcoValue '21 - Chemical Subset
1-96 to 12-98 Stock Performance
Top Half vs. Bottom Half

Top Half Average:
- 4.0% 6.3% 13.2% 15.0% 13.4% 13.2% 22.5% 27.8% 33.4% 34.6% 39.6% 42.7% 48.0% 58.8% 59.4% 50.9% 52.6% 53.2% 57.6% 72.5% 84.4% 88.0% 79.9% 88.3% 89.5% 81.3% 64.1%

Bottom Half Average:
- 5.7% 9.3% 11.5% 8.9% 3.9% 1.0% 7.4% 1.3% 0.7% 1.2% 4.8% 0.3% 7.5% 14.1% 16.4% 19.4% 52.9% 14.6% 10.9% 20.1% 17.3% 11.1% 6.3% -16.9 -14.4 4.9% 7.4%

Spread:
- 1.7% -3.0% -6.1% 9.5% 14.3% 15.1% 26.4% 32.7% 33.4% 34.9% 42.4% 40.6% 42.7% 43.0% 41.5% 39.7% 48.7% 46.8% 52.4% 57.1% 74.9% 73.6% 65.2% 53.9% 66.1% 71.5%

Difference:
- -1.7% -3.0% 1.6% 6.1% 9.5% 14.3% 15.1% 26.4% 32.7% 33.4% 34.9% 42.4% 40.6% 42.7% 43.0% 41.5% 39.7% 48.7% 46.8% 52.4% 57.1% 74.9% 73.6% 65.2% 53.9% 66.1% 71.5%

Graph shows the stock performance from 1996 to 2008, comparing the top half and bottom half of chemical sector stocks, highlighting differences and average performance.
EcoVALUE '21: Uncovering Hidden Value Across 10 Sectors

The “eco-efficiency premium” applies even across broadly diversified portfolios:

Despite their virtually identical ratings from Wall Street, these pairs of companies from 10 major industry sectors have radically different EcoValue ’21 ratings - and investment performance.
The EcoValue ‘21 Company Profile provides a condensed analysis of environmentally-related risks, opportunities and management strategies.

Even more condensed is the EcoValue ‘21 Company Rating (AAA, AA...CCC). This rating can be used as a shortcut to determine the eco-efficiency and potential outperformance of an investment.
Example of GMO Growth Fund
Portfolio Distribution based on
EcoValue’21 Environmental Performance Rating

<table>
<thead>
<tr>
<th>EcoValue’21 Rating</th>
<th>16.5%</th>
<th>13.7%</th>
<th>8.5%</th>
<th>17.8%</th>
<th>5.2%</th>
<th>6.4%</th>
<th>7.0%</th>
<th>24.9%</th>
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<tr>
<td>AAA</td>
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Investment Strategies: Enhanced S&P 500 Index Approach

Mellon Capital/Dreyfus Investment Advisors

- Provide proprietary industry and company research which assesses
  - Industry sustainability dynamics
  - Resource use efficiency
  - Strategic corporate governance

- Implementation of Innovest research
  Portfolio construction and trading
  Risk and portfolio management

- The Portfolio is comprised of approximately 150 - 200 issues with overall characteristics similar to the S&P 500 Index
Investment Strategies: Enhanced S&P 500 Index Approach

Eco-Enhanced Portfolio Weights vs. S&P Weights

<table>
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<tr>
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<th>AAA</th>
<th>AA</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
<th>CCC</th>
<th>CC</th>
<th>C</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Eco-Enhanced Weights</td>
<td>31.7%</td>
<td>16.1%</td>
<td>11.6%</td>
<td>5.3%</td>
<td>2.9%</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>32.2%</td>
</tr>
<tr>
<td>S&amp;P 500 Weights</td>
<td>17.3%</td>
<td>11.9%</td>
<td>11.9%</td>
<td>10.3%</td>
<td>9.1%</td>
<td>2.5%</td>
<td>4.2%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>32.6%</td>
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Over-weight higher-rated companies

Under-weight lower-rated companies
Investment Strategies using EcoVALUE '21 Ratings

Customized Products

**U.S. Equities:**
- Enhanced S&P 500 Index Approach
- Active, stock-picking fund strategy (40-60 stocks)
- Best-in-class sector fund strategies
- “Long-short” portfolios

**International Equities:**
- Enhanced Eurotop 300 Index Strategy
- Enhanced FT 100 Index Strategy
The Forest Product Industry

Resource Intensive Industries

- Large environmental impact
- Drives increasing environmental pressures (regulations, market demands, public concerns, etc.)
- Creates opportunities for environmentally-favorable products, services and technologies
- Varying environmental management strategies (proactive vs. reactive)
- Implies differentials in stock market performance (uncovering hidden value)
The Forest Product Industry

Industry Trends:

- FPI = poor financial performer in the last 10 years (companies have barely covered cost of capital and generated little free cash flow)

- Forestry business has shown very profitable

- Pulp & Paper is very capital intensive

- Industry is fragmented; trading of undifferentiated commodity => little pricing power

- Increased env. regulations => pressure on margins

- Response: industry seeking economies of scale (bigger plants, mergers and acquisitions)
The Forest Product Industry

**Environmental drivers: Supply side**

- Tightening fiber supplies
- *Shifts in production to plantations and the southern hemisphere*
- *Changing trade flows and globalization of the industry*
- Increased resource efficiency and product standardization
- Increased government regulation
- Pressure from environmental groups
- Certification and voluntary sustainability initiatives
- Peer-pressure from forest products companies pursuing SFM
The Forest Product Industry

Environmental drivers: Demand side

❖ Population growth and rising living standards in developing countries
❖ Growing concern for the environment among retail consumers
❖ Formation of sustainable products buyers groups
❖ Industrial customers demanding environmentally-friendly supplies
❖ Government contracts stipulating sustainable materials
❖ New product development
The Forest Product Industry

Air Quality Regulations

✦ Cluster Rule Air Quality Provisions
✦ Long-Range Transport of Smog Precursors
✦ Ozone and PM 2.5 standard
✦ Regional Haze Rule
✦ Compliance Assurance Monitoring
✦ Credible Evidence Rule
The Forest Product Industry

Water Quality Regulations

- Compliance options under Cluster Rule
- Total Maximum Daily Loads
- Sediment Remediation
- Endangered Species Act
- Great Lakes Initiative
- Cooling water intake
- Sector Facility Index
Climate Protection:

- **Limits on industrial carbon dioxide emissions:** Could impose caps on carbon dioxide emissions from industrial “point” sources.

- **Carbon sequestration:** Incentives to sequester carbon for climate purposes would encourage increases in the standing timber stock.
The Forest Product Industry

Environmental Influences on Fiber Supply:

✧ Regulations on Private Lands

✧ Harvests on Public Lands

✧ Actions under the Endangered Species Act (ESA)

✧ Environmental conflict over intensive sylviculture

✧ Plantations, “fiber farms” and bioengineering.

✧ Forestry Certification and product eco-labeling
The Forest Product Industry

Environmentally-Driven Business Opportunities

- Certified Sustainable Forest Management (SFI, FSC, ISO14001 and CSA)
- Elemental Chlorine Free (ECF), and Total Chlorine Free (TCF) bleached papers
- Innovative eco-efficient wood products
- Carbon sequestration opportunities
### The Forest Product Industry

#### Sustainable Forest Management Certification

<table>
<thead>
<tr>
<th>Evaluation criteria:</th>
<th>FSC</th>
<th>ISO</th>
<th>CSA</th>
<th>SFI</th>
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<tbody>
<tr>
<td>Sets minimum forest management practices standards?</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Requires independent third-party auditing?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Voluntary</td>
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<tr>
<td>Undertakes forest-based assessment?</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Voluntary</td>
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<tr>
<td>Evaluates internal Environmental Management System?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>Provides product label or market-based claim?</td>
<td>X</td>
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</table>

*Source: Adapted from WWF, 1998*
The Forest Product Industry

Environmental Management Strategy

- Environmental Proactiveness
- Environmental Risk Management Systems
- Stakeholder Communications
- Eco-efficiency Programs
- Technological Innovation
FINANCIAL EXPOSURE TO PENDING ENVIRONMENTAL ISSUES OF 13 U.S. PULP & PAPER COMPANIES
(Source: WRI 2000, Robert Repetto & Duncan Austin)
### EcoVALUE’21™ Results: Forest Products Industry

#### EcoVALUE’21: Forest Product Industry Subset
12/97 to 12/99 Performance
Top Half vs. Bottom Half

![Graph showing performance comparison between top and bottom halves of the industry from December 1997 to December 1999.](image)

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<tr>
<td>Difference</td>
<td>0.0%</td>
<td>-0.7%</td>
<td>3.2%</td>
<td>7.1%</td>
<td>7.3%</td>
<td>8.8%</td>
<td>1.4%</td>
<td>2.7%</td>
<td>1.4%</td>
<td>-0.1%</td>
<td>1.3%</td>
<td>2.7%</td>
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<td>5.5%</td>
<td>7.5%</td>
<td>8.1%</td>
<td>21.8%</td>
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<tr>
<td>Top Half Average</td>
<td>0.0%</td>
<td>2.6%</td>
<td>18.3%</td>
<td>27.9%</td>
<td>16.0%</td>
<td>11.8%</td>
<td>-1.0%</td>
<td>1.1%</td>
<td>-4.9%</td>
<td>1.2%</td>
<td>27.3%</td>
<td>29.7%</td>
<td>23.6%</td>
<td>23.4%</td>
<td>29.0%</td>
<td>62.5%</td>
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<tr>
<td>Bottom Half Average</td>
<td>0.0%</td>
<td>3.3%</td>
<td>15.1%</td>
<td>20.8%</td>
<td>8.7%</td>
<td>3.0%</td>
<td>-12.3%</td>
<td>7.2%</td>
<td>-3.2%</td>
<td>1.4%</td>
<td>20.9%</td>
<td>22.4%</td>
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</table>
Conclusions:

- Out-performance differential will increase going forward as environmental regulations and concerns increase.

- Environmental screening positions investors favorably for future competitive trends, risks, and opportunities.

- The EcoValue’21 rating methodology identifies risks and opportunities overlooked by traditional investment analysis.

- Positive financial community response: Innovest customers include Dreyfus, Scudder Kemper, Morgan Stanley, Bear Stearns, Chase Manhattan, Mellon Capital, ABN AMRO, CalPERS, Schroders, etc.

- Screening for environmental performance will become a fiduciary responsibility of investment managers and advisors seeking to maximize returns for investors.
EcoVALUE '21:

APPENDIX
Environmental Leaders Out-Perform Financially

A large number of studies from industry, government and academia support the validity of the concept that a portfolio of environmentally superior companies can out-perform an environmentally inferior portfolio.

Previous Third-Party Research (partial listing):

<table>
<thead>
<tr>
<th>DATE</th>
<th>RESEARCHER</th>
<th>RESULT</th>
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<tbody>
<tr>
<td>June 1997</td>
<td>Duke University</td>
<td>400 bps; 5 yrs.</td>
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<td>(470 companies)</td>
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<td>May 1997</td>
<td>U.S. EPA</td>
<td>270 bps; 5 yrs.</td>
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<td>(330 companies)</td>
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<tr>
<td>Nov. 1996</td>
<td>ICF Kaiser</td>
<td>500 bps. (hypothesized)</td>
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<td></td>
<td>(330 companies)</td>
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<tr>
<td>Sept. 1996</td>
<td>Scudder/Storebrand</td>
<td>500 bps; 5 yrs.</td>
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<td></td>
<td>(100 companies)</td>
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<tr>
<td>1994</td>
<td>Winslow/Eaton Vance</td>
<td>230 bps; 10 yrs.</td>
</tr>
<tr>
<td></td>
<td>(500 companies)</td>
<td>500 bps; 5 yrs.</td>
</tr>
</tbody>
</table>

See Research Library at www.innovestgroup.com for additional studies
Innovest Asset Management


William Coughlin, CFA -- Co-Managing Director of Asset Management. Former MD at Scudder Kemper Investments and Investment Director of NYNEX’s $12 billion pension fund. Managed $650 million in-house portfolio.

Herbert Blank -- Senior Investment Advisor. Former Director at Deutsche Morgan Grenfell; CIO for NYSE-traded family of international equity funds; and Director of quantitative research and asset management at Value Line.