



The Role of Insurance in Sustainability Risk Management

Joint Meeting – SOA, CAS, CIA
Quebec City - June 18, 2008

by

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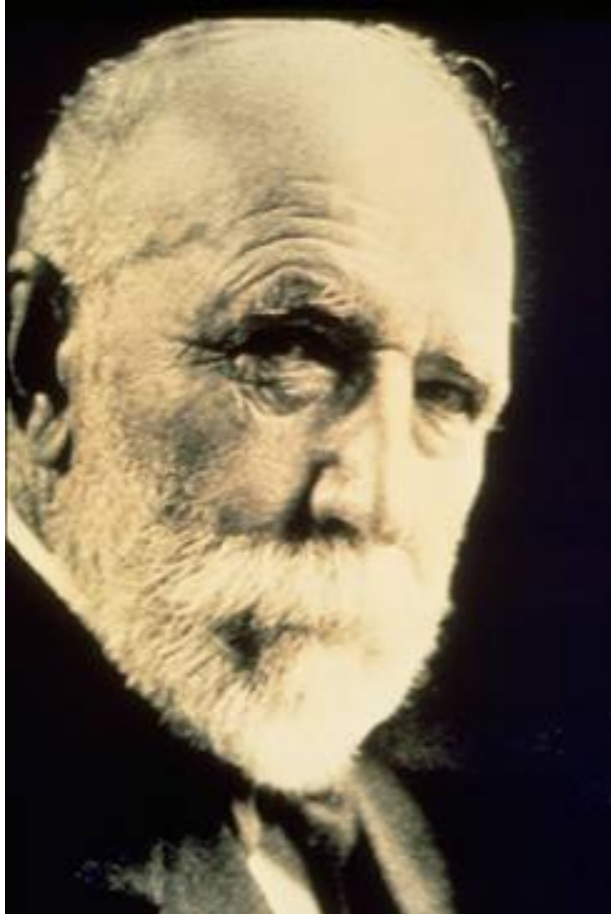


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Agenda

1	OVERVIEW
2	Climate Change and Global Warming
3	Energy
4	Wastes
5	Legacy Environmental Liabilities
6	Asbestos
7	Equator Principles

Sustainability

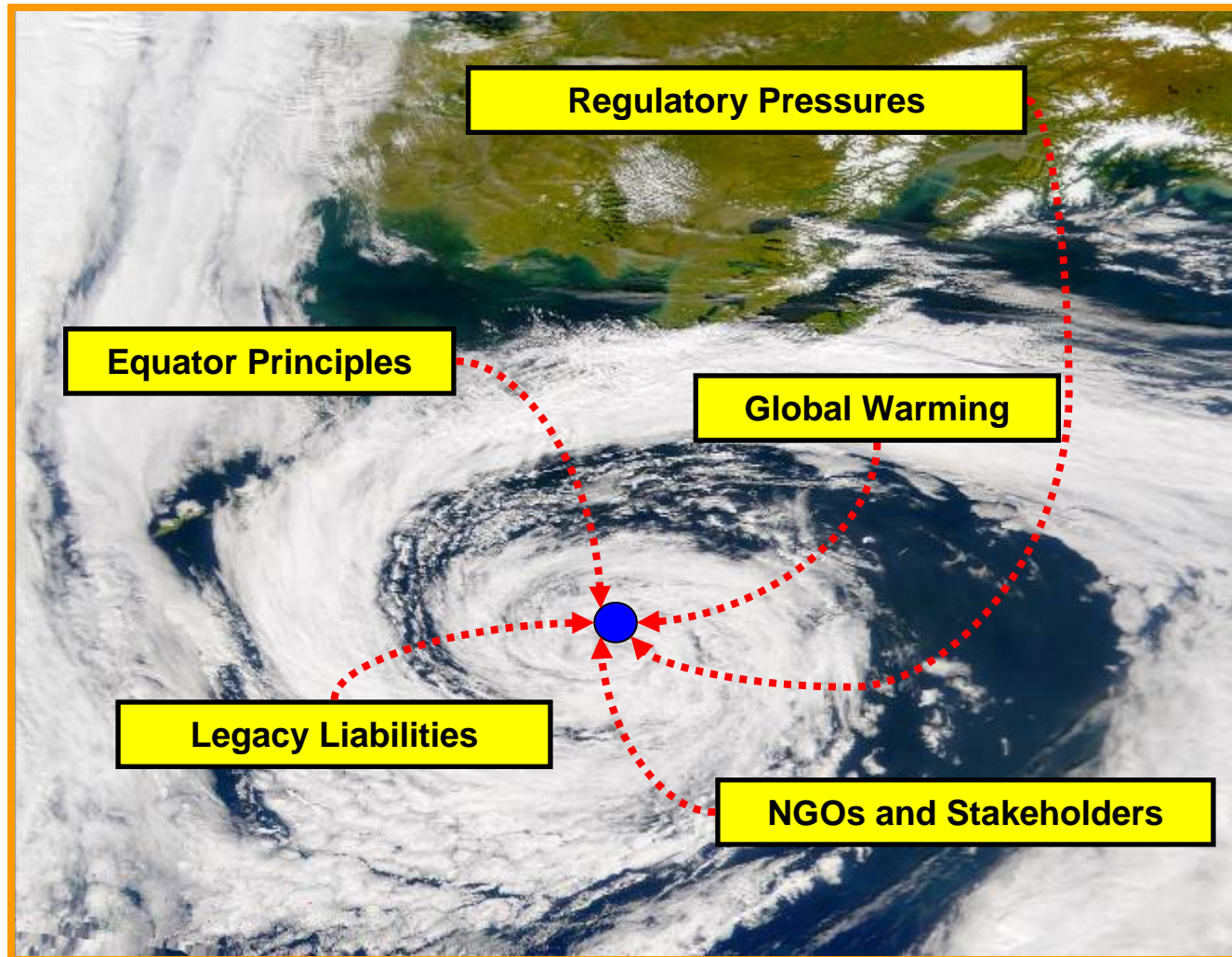


“This is not for us, nor for our children, but for our grandchildren.”

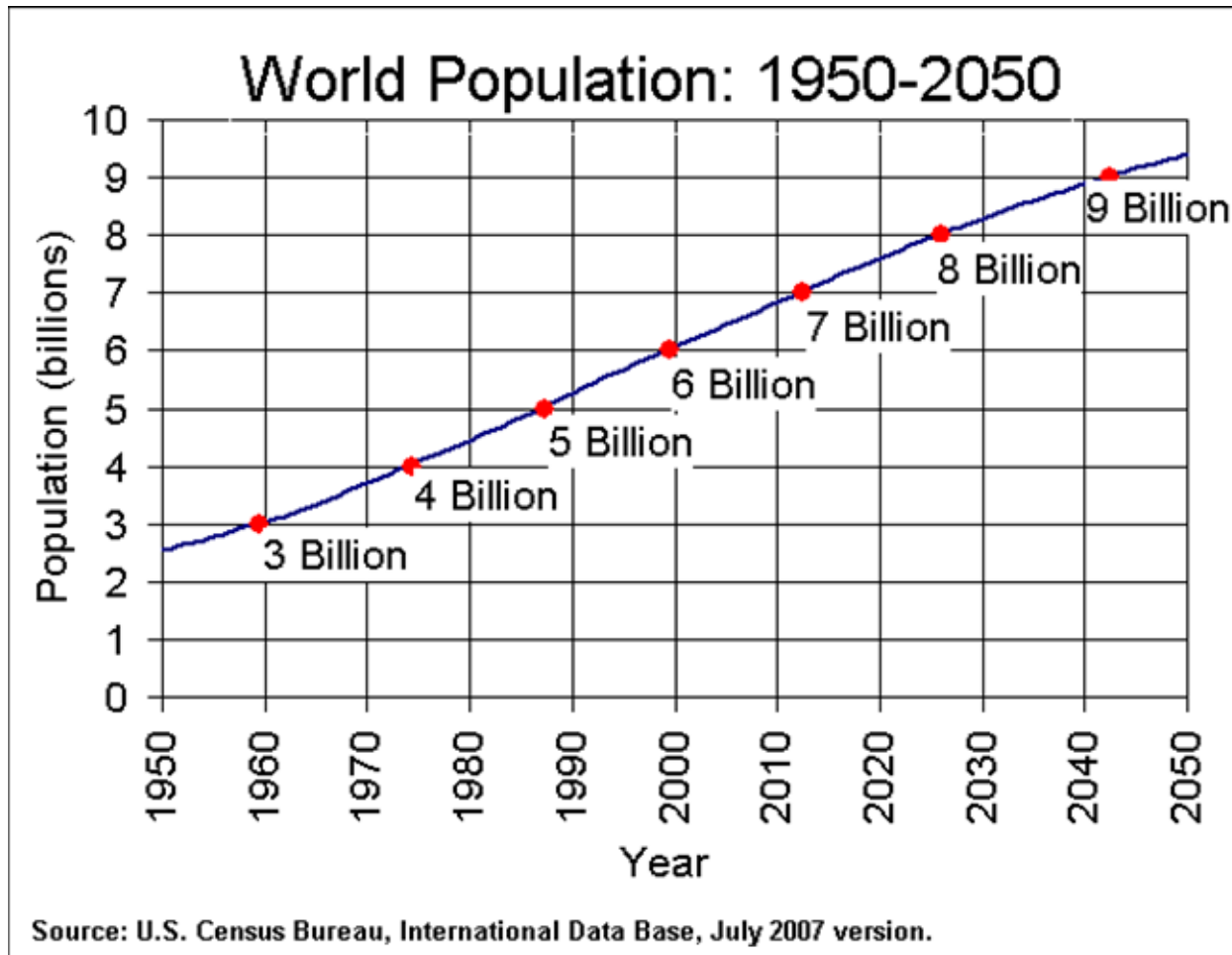
Frederick Weyerhaeuser

Founder, 1900

A Perfect Storm is Building



Why Care about Sustainability?



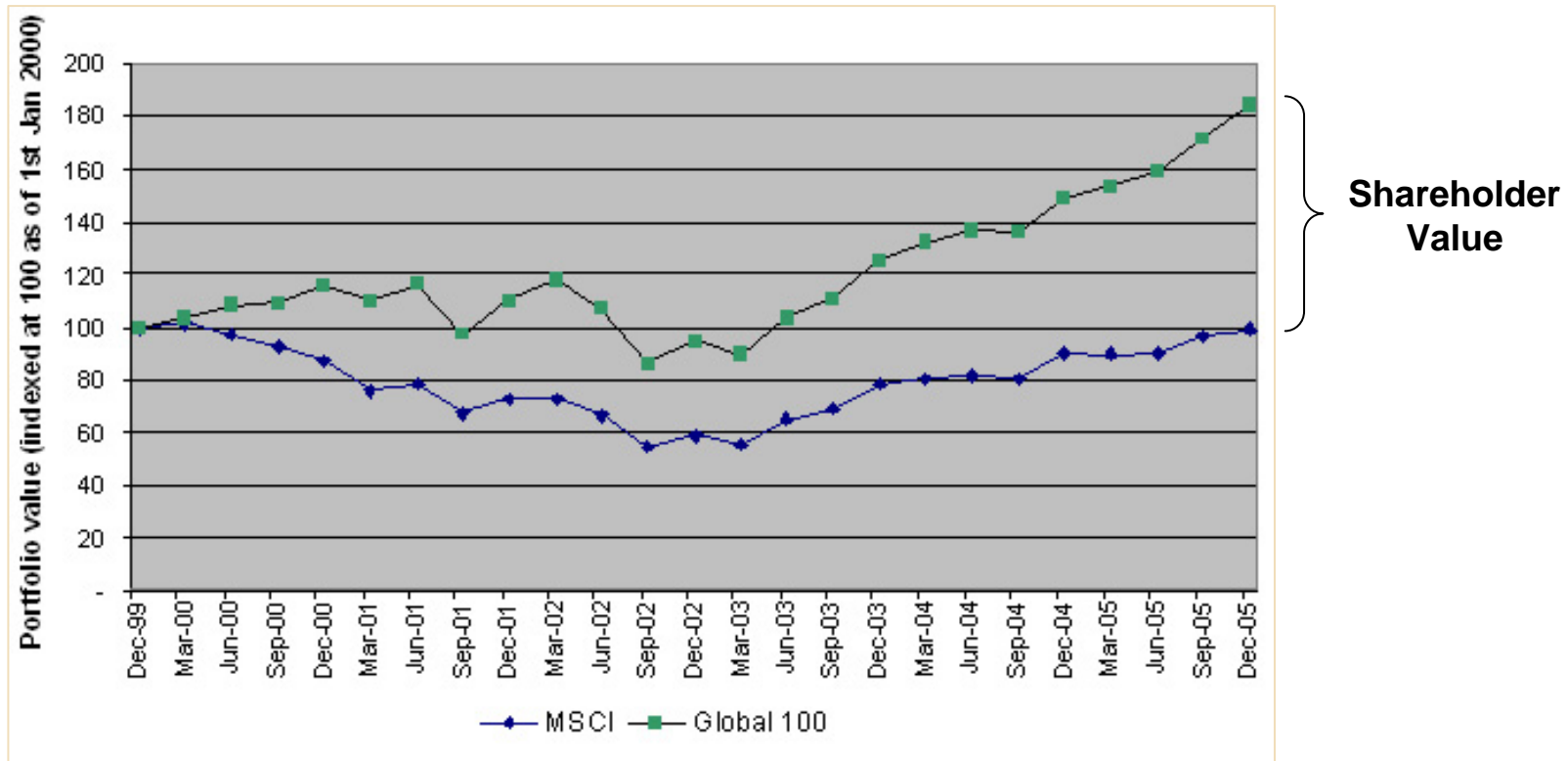
Hypothesis - Population growth cannot be sustained without modifications in lifestyle



What's Sustainability Worth?

It's Demonstrated Positive Impact on Shareholder Value:

Relative performance of the 2006 Global 100 companies back-tested against the MSCI World Index (2000-2005)



Source: Global100.org

- MSCI - world index designed to measure global developed market equity performance
- Global 100 – top 100 most Sustainable companies (Davos World Economic Forum)



Sustainability is Catching On

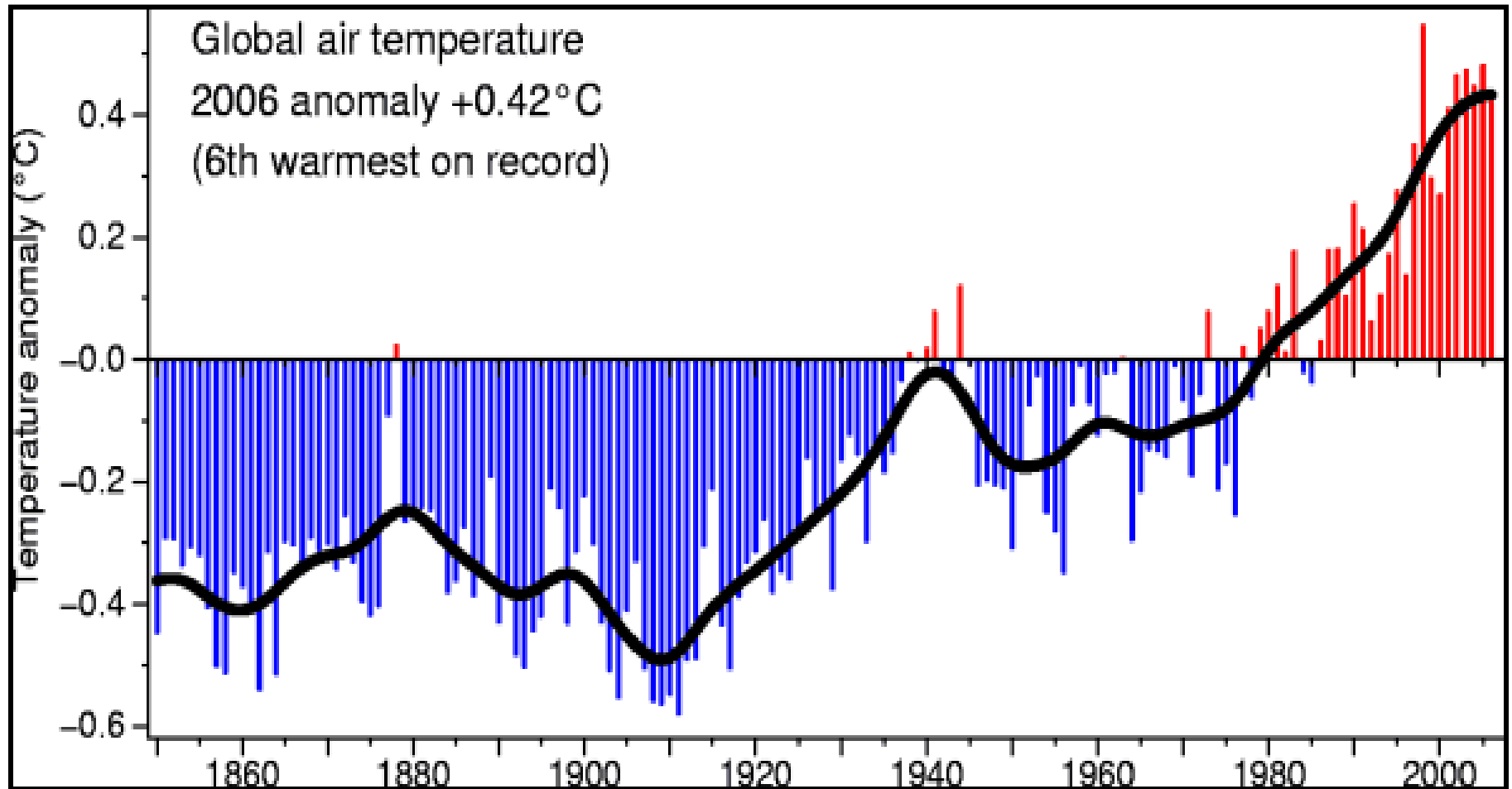


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2	CLIMATE CHANGE AND GLOBAL WARMING
3	Energy
4	Wastes
5	Legacy Environmental Liabilities
6	Asbestos
7	Equator Principles

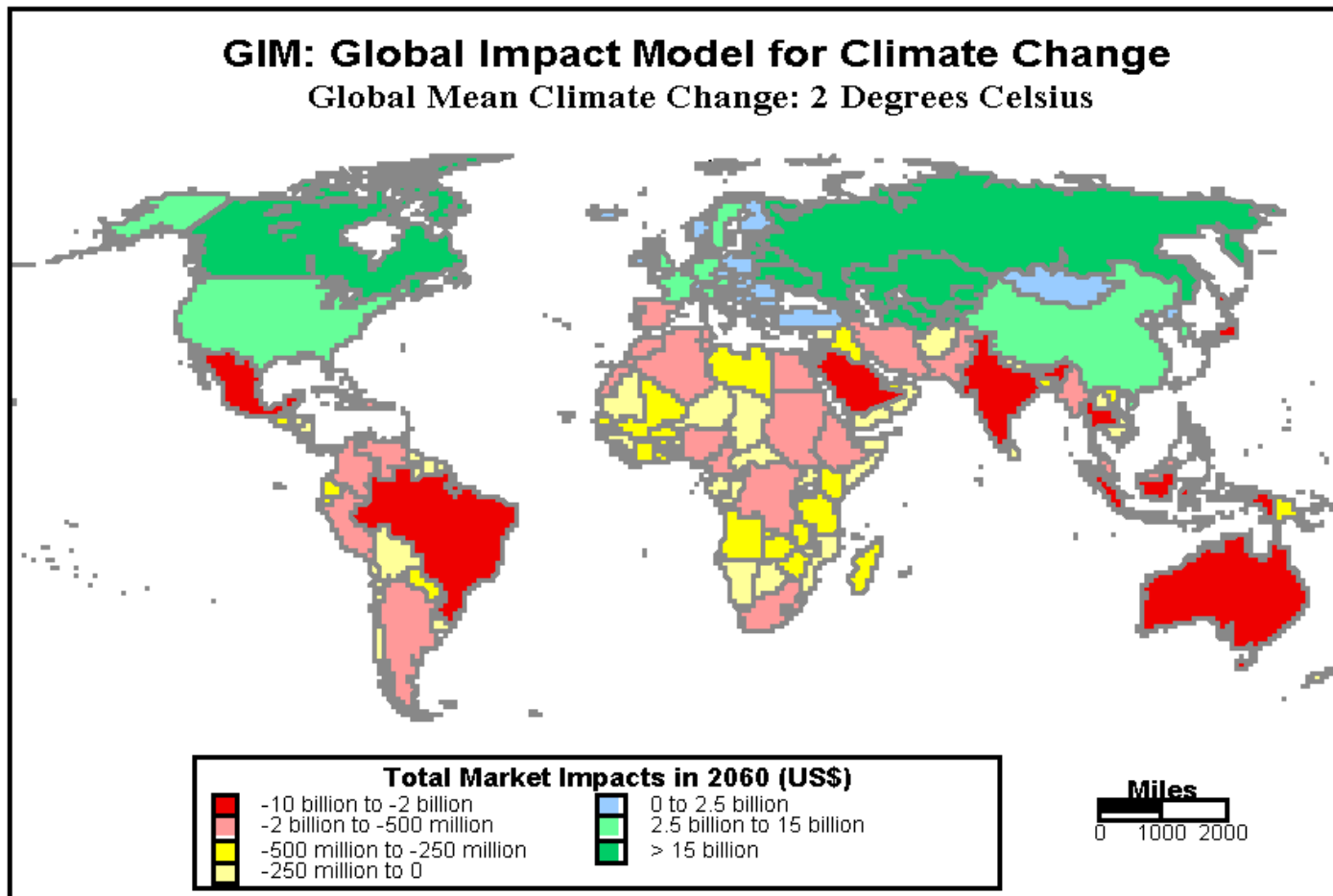
Global Warming (1850 to 2007)



Source: Climatic Research Unit and the UK Met. Office Hadley Centre
Brohan, P., J.J. Kennedy, I. Haris, S.F.B. Tett and P.D. Jones, 2006



Market Impacts



Risk Issues of Climate Change and Global Warming

- ↳ Changing Footprint
- ↳ Quality of Carbon Credits and Offsets
- ↳ CO₂ Emissions as “Pollution”
- ↳ Future Energy Strategy
- ↳ How Your Market will Change over Time
- ↳ Melting of Glaciers/Polar Ice and Rising Ocean Levels
- ↳ More Severe Tropical Storms/Hurricanes
- ↳ Changes In Precipitation and Drought
- ↳ Heat Related Deaths and Diseases
- ↳ Tipping Point – Point Where Damage is Irreversible and/or Rate of Change Accelerates

Some Possible Solutions

↳ Carbon Credits and Offsets

- Efficacy
- Failure to Deliver/Credit Risk
- AIG, Zurich, EU Financial Markets

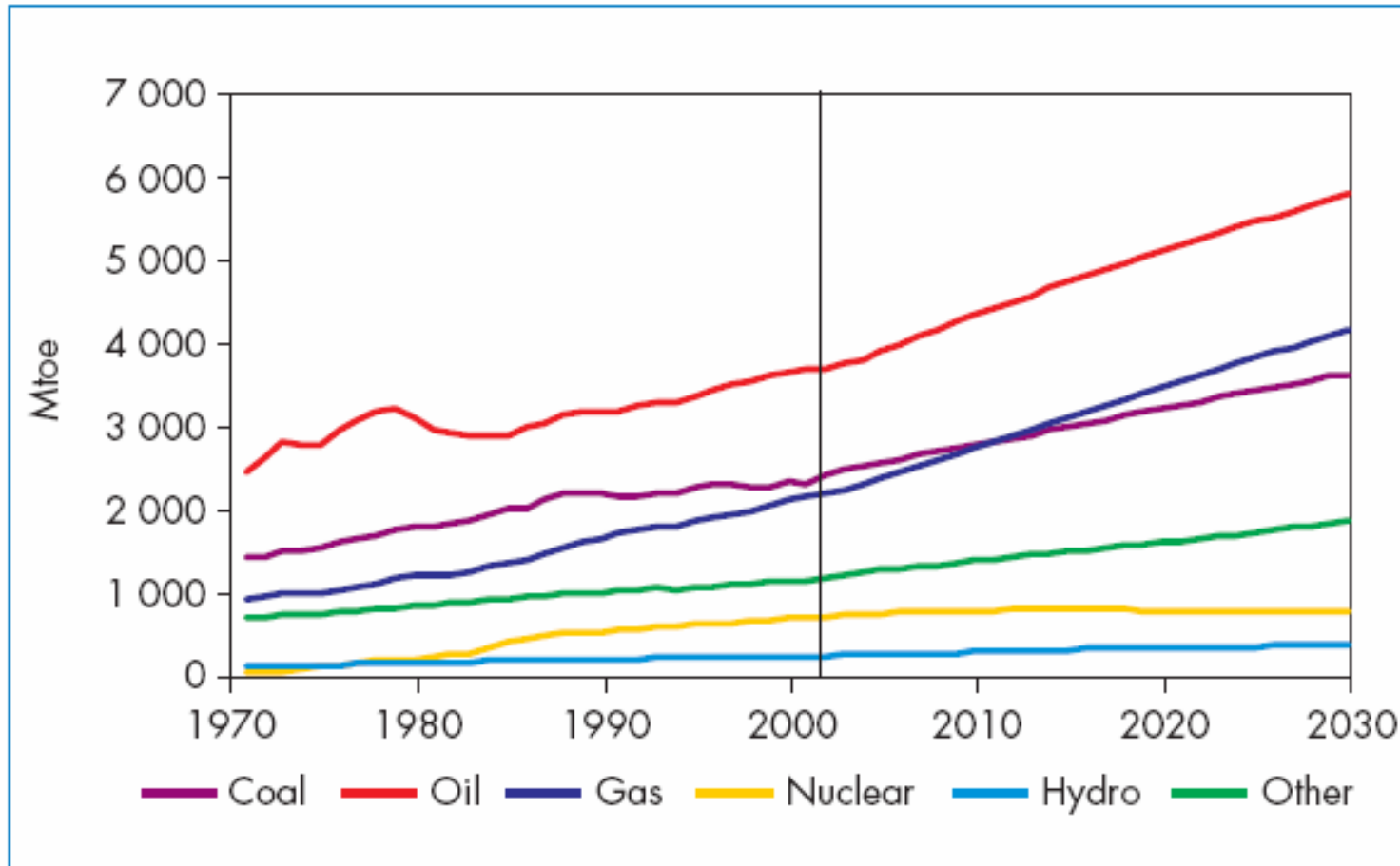
↳ Global Warming Impacts

- Commercial General Liability Insurance
- Pollution Liability Insurance

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World Energy Demand Forecast



World Primary Energy Demand by Fuel (IEA World Energy Outlook 2006)

Energy Demand

- ↳ Energy Demand is Projected to Increase by 57% over the Next 25 Years
- ↳ Most of the Demand will Come from India and China
- ↳ Much of this Demand will be Met with Energy from Coal-Fired or Oil-Fired Generators
- ↳ This will Result in Greater Emissions of CO₂, SO_x and Particulate Matter
- ↳ Nuclear Power is Expected to be a Significant Factor

Risk Issues Related to Energy Demand

- ↳ Significant Energy Shortages on a Global Basis
- ↳ Sharply Higher Energy Costs
- ↳ Construction of New Coal-fired Plants will be Difficult
- ↳ Alternative Energy (Nuclear, Hydroelectric and Wind Turbine Power) will Take Longer to Build, Cost at Least 1/3 More and Create other Risk Issues
- ↳ Industry will be Competing with the Emerging Middle Class

Some Possible Solutions

↳ Increased Emissions and Operational Risks

- Pollution Liability Insurance

↳ Construction of New Capacity

- Contractor's Pollution Liability

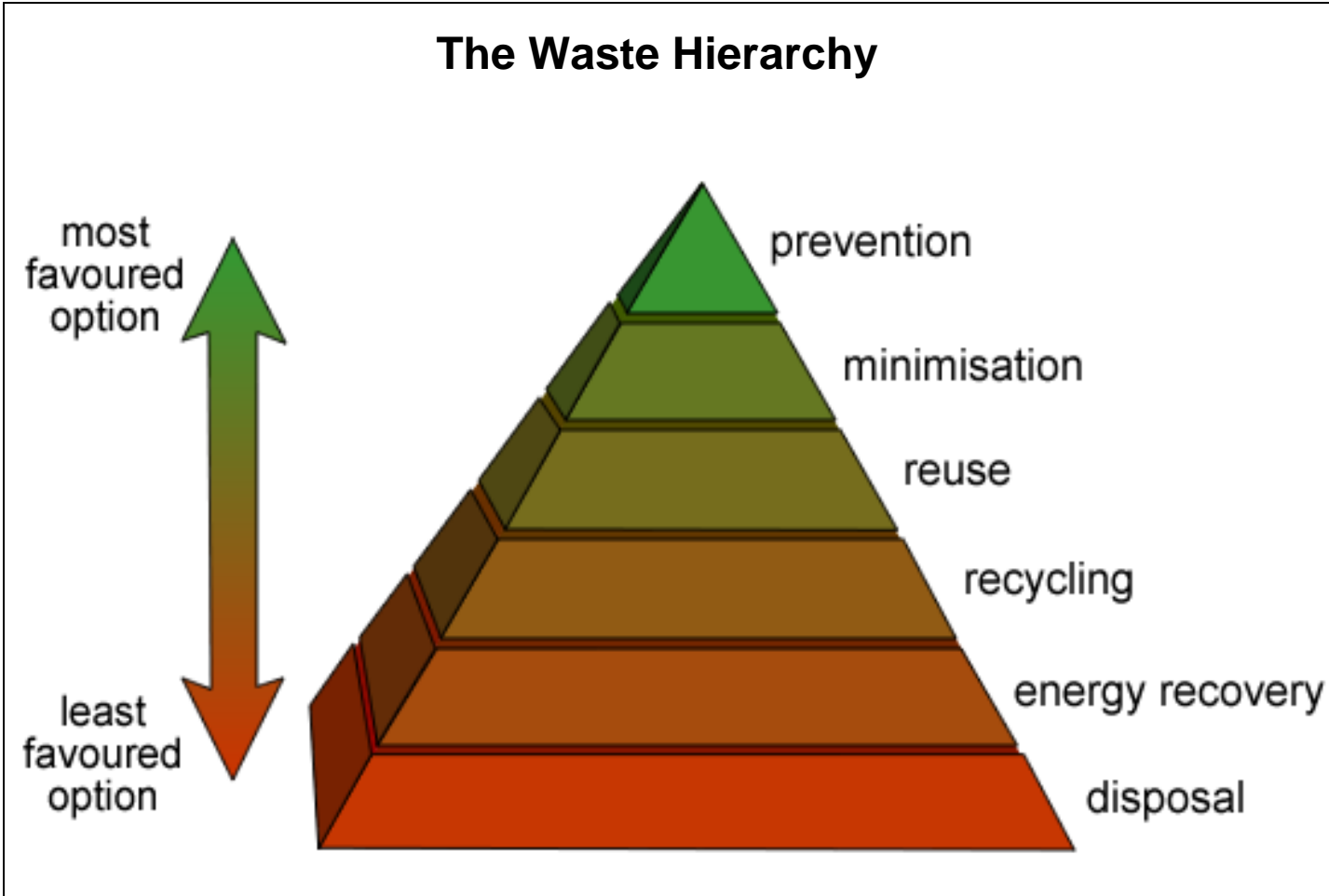
↳ Green Buildings

- Fireman's Fund GreenGuard Programs
- AIG's Sustain-A-Build Program

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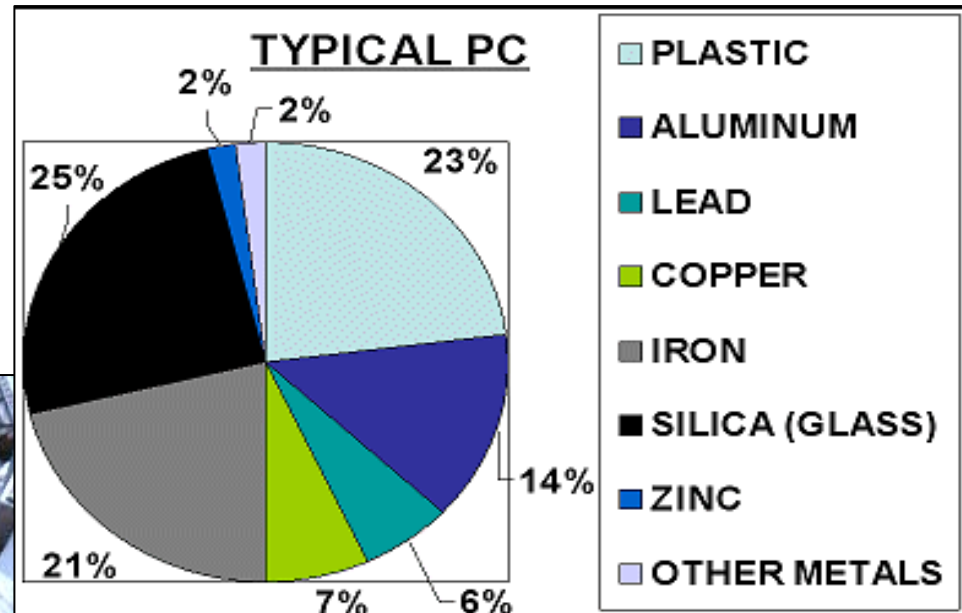
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Waste Management and Recycling



Recycling of Electronics

An Example of a Growing Trend



↳ Electronic waste or “E-waste” represents 70% of overall toxic waste

Risk Issues on Waste Management

- ↳ Health and Safety Concerns with On-Site Waste Management
- ↳ Possible Releases of Waste Material into the Environment
- ↳ Releases from Recycling and Disposal Sites
- ↳ Long-term Closure and Monitoring Requirements for On-Site Disposal Facilities
- ↳ Growing Number of Regulations Mandating Recycling of Spent/Used Consumer Products

Some Possible Solutions

↳ Recycling

- Pollution Liability Insurance

↳ Non-Owned Disposal sites

- Pollution Liability Insurance

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Environmental Liability Disclosures

- ↳ 1980 – Superfund Passed
- ↳ 1992 Securities and Exchange Commission (SEC) Survey
 - Found 62% not accruing known environmental liabilities on financial statements
- ↳ 1993 Government Accountability Office (GAO) Report
 - Poor Superfund disclosures by insurers
- ↳ 1996 Study (Freedman & Stagliano)
 - 54% non-disclosure rate of known Superfund liabilities by initial public offerings (IPOs)
 - 61% non-disclosure of all registered companies
- ↳ 1998 EPA Study
 - 74% non-disclosure rate of environmental legal proceedings on 10-K filings
 - 96% non-disclosure rate for RCRA corrective actions on 10-K filings
- ↳ 2001 EPA Guidance Issued
 - Clarifies regulated entity’s duty to meet SEC requirements
- ↳ 2001 EPA Presentation
 - 96% of publicly traded companies failed to properly disclose to shareholders



Environmental Liability Disclosures

- ↳ Rose Foundation and Petition to SEC (9/02)
 - Identification and measurement standards exist (ASTM)
 - Supported by 89 letters
- ↳ “Environmental Disclosure - SEC Should Explore Ways to Improve Tracking and Transparency of Information” (GAO, 7/04)
- ↳ “EPA Should Do More to Ensure that Liable Parties Meet Their Cleanup Obligations” (GAO, 8/05)
- ↳ SEC Proposes Enforcement Action Against Ashland Inc. (April 2006)
- ↳ 28 Institutional Investors Petition SEC to Require Disclosures Related to Climate Change (June 15 2006)



What Does This Mean?

- ↳ Necessity to Identify and Quantify Legacy Environmental Liabilities
 - Divested Operations – Known and Unknown
 - Disposal Sites
 - Operating Facilities
- ↳ Accounting for Conditional Asset Retirement Obligations, FASB Statement No. 143
 - As interpreted by FASB Interpretation Number 47 (FIN 47, 3/05)
- ↳ Sarbanes-Oxley

Some Possible Solutions

- ↳ Guaranteed Fixed Price Clean-Ups with Cost Cap Insurance
- ↳ Environmental Liability Buyout Programs
- ↳ Pollution Liability Insurance
 - Site/Transaction Specific
 - Portfolio
 - Catastrophic Programs

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Asbestos – Where are We Today

- ↳ Over 750,000 Claimants in the US*
- ↳ Over \$70,000,000,000 Spent on Defense and Settlements*
- ↳ Mesothelioma, Other Cancers, Asbestosis, Pleural Impacts, Unimpaired
- ↳ Over 70 Corporations Driven to Bankruptcy
- ↳ Asbestos Litigation Net Spreading – Over 60% of New Defendants Non-Traditional

*Rand, *Asbestos Litigation*, 2005

Some Possible Solution

- ↳ Traditional Focus has been General Liability Carriers
- ↳ Within Last Six Months, Two New Facilities
 - St George's Re
 - Navigant Program

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Equator Principles

Key Principles

- ↳ Developed by the Financial Industry to Benchmark, Assess and Manage Social and Environmental Risks in Project Finance Transactions
- ↳ Based on the International Finance Corporation Framework
 - 8 Performance Standards
 - 63 Sector Guidelines
- ↳ 57 Principles Financial Institutions have Adopted the Equator Principles as of Today
- ↳ Signatories Include:
 - ABN AMRO Bank, N.V
 - Bank of America
 - Barclays
 - HSBC
 - JP Morgan Chase

Equator Principles

Who is Affected?

- ↳ All New Project Finance Transactions, Globally, with Total Project Capital Costs of US\$10 Million or More

What are the Impacts?

- ↳ Requires that an Environmental and Social Impact Assessment be Prepared for each Project
- ↳ Although the Adoption and Implementation of these Principles is Voluntary – They are Spreading throughout the Financial Sector
- ↳ Failure to Comply can Result in Damage to Reputation and Impact the Project Schedule and the Availability of Financing
- ↳ Compliance can Broaden Lender Base and Potentially Lower Lending Rates

Some Possible Solutions

↳ Pollution Liability Insurance

- Project and Site Specific Programs
- Portfolio Programs

↳ Contractor's Pollution Liability

- Project and Site Specific Programs
- Portfolio Programs

