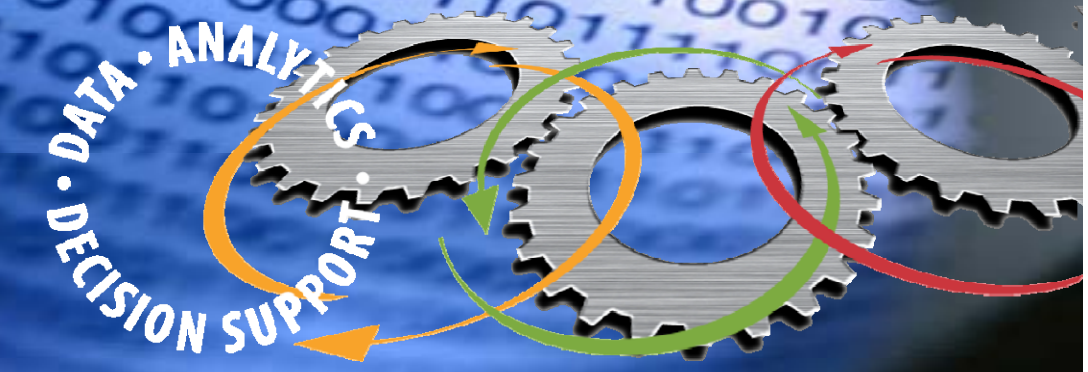
Emerging Issues Affecting Insurance

PAAS Annual Forum



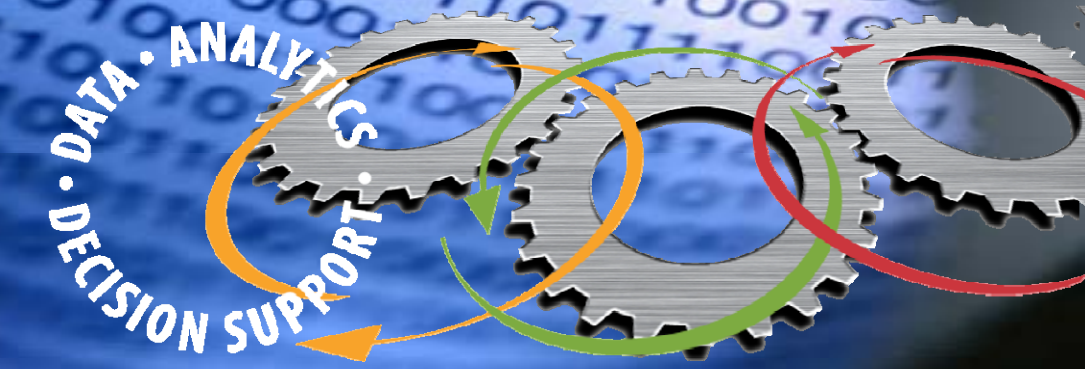
Why We Study Emerging Issues

- Stay ahead of the game
- Improved awareness of hot topics
- Potential insurance implications
- Information from many sources
- Emerging Issues Panel
- ISO staff decision

Hot Topics We Are Tracking

- Aging public infrastructure
- Avian/Swine flu: potential for a pandemic
- Chemicals: benzene; diacetyl; bisphenol A; others
- Climate change: insurance implications
- Genetically modified organisms
- Green movement
- Hazardous Products and Recalls
- Identity Theft
- Internet Exposures: Impact on personal injury
- Smart Cars and Intelligent Roads
- Nanotechnology
- Subprime mortgage market crisis

Green Buildings



The Green Movement

- **“It's a concept with quite the buzz. Everyone is talking about it--from Wired magazine, to Elle, to *Vanity Fair*. It's a topic so popular, that a Google search yields over 8 million hits”**
- **“…one of the hottest trends in commercial real estate that is expected to grow…”**
- **“…helps maintain property value – particularly during resale”**
- **“Demand and planning for green buildings is rising like skyscrapers on steroids”**
- **“A green home is a healthy home”**

Why Go Green?

- **Increased property value**
- **Increased return on investment:**
  - Lower utility bills
  - Reduced operating and maintenance costs
- **Enhanced occupant health and well-being**
- **Boost occupant productivity**
- **Increased sales and leasing potential**
- **Enhanced community and local economy**
- **Public health benefits**

Green Building Construction

- **Boston, MA:**
  - All large building projects must meet LEED certification requirements
- **Annapolis , MD:**
  - All new single-family residential construction LEED certified (7-1-09)
- **Greensburg, KS:**
  - Goal to rebuild employing green technologies and techniques for building construction
- **Seattle, WA:**
  - Dep't of Planning and Development states its mission is to make green building standard practice in Seattle through education, technical assistance and incentives
- **San Francisco, CA:**

  Any public construction over 5,000 square feet must meet LEED silver benchmarks

Worldwide, Buildings Account For

- 17% of fresh water withdraws
- 25% of wood harvest
- 33% of CO_2 emissions
- 40% of material and energy usage

US Buildings' Impact on Resources

- 39% of total energy consumption
- 71% of electricity consumption
- 39% CO_2 emissions
- 30% of raw material usage
- 30% of waste output
- 12% of potable water consumption

The Construction Industry Consumes

- **40% of domestically extracted materials**
- **2.5 billion tons of Portland Cement annually**
- **In the US; 6 billion tons of basic materials annually**
  - 90% of all materials ever extracted reside in today's buildings and infrastructure.

What is Green Building

- Site Planning
- Water Management
- Energy Efficient Systems
- Material Use
- Indoor Environmental Quality
- Weighing consequences before taking actions

Green Buildings' Average Savings

- 30% ENERGY SAVINGS
- 35% CARBON EMISSION SAVINGS
- 30-50% WATER USE SAVINGS
- 50-90% WASTE COST SAVINGS

Reduced Loss Exposure

- **Certification process itself:**
  - Ensures electrical, HVAC and plumbing systems are working at high efficiency
- **Energy-efficiency:**
  - Less heat and reduces fire hazard
- **Panels containing cement:**
  - Reduce amount of wood needed
  - Resistant to mold, wind, earthquake
- **Energy-efficient windows:**
  - Resist shattering from heat and resist breakage by thieves

Reduced Loss Exposure (Cont'd)

- **Grid-independent power systems:**
  - Limit business interruptions
- **High-efficiency/dry fixtures (composting toilets and occupant sensors):**
  - Reduce water pipes bursting/sewer back-ups
- **Vegetative rooftops:**
  - Reduce energy consumption needs for cooling building interiors
- **Low volatile organic compound paints/ adhesives:**
  - Improve indoor air quality

Coverage Concerns

- **Vegetative rooftops:**
  - Dry during drought, increasing potential fire hazard
  - Increased risk of water damage and mold
  - Replacement after loss can be expensive
  - Vermin damage/wind resistance/maintenance
- **Alternative water and energy systems:**
  - Difficult to value due to new materials and technologies
- **Green construction products/techniques:**
  - Are relatively new and may be viewed as unproven
  - How will new sustainable components interact with other traditional building components?

Coverage Concerns (Cont'd)

- **Better building ventilation**
  - Could draw in excessive moist air in humid climate increasing exposure to mold
- **Lack of availability of green products due to increased demand could lead to project delays**
  - Loss of use
  - Business interruption
  - Business income expense
  - Extra expense
- **Waste reuse and disposal**
  - Implications on debris removal coverage

Coverage Concerns (Cont'd)

- **Ordinance or law**
  - Partial vs. total loss
- **Green Construction Methods/Techniques**
  - May not have proper training/licensing
  - Contractors may not be up to speed on latest green building techniques
- **Existing Coverage Limitations**
  - land; growing crops and lawns
  - replacement cost vs. ACV

Potential Litigation

- **Building owners expect: good public relations, higher rents; tax breaks**
  - What if contractors/design professionals fail to deliver?
- **Fear that green-related claims against architects and engineers are escalating**
- **Architects and engineers may lack the training, expertise and technical understanding to oversee/design green projects**
- **Building commissioning is especially important:**
  - Provides documented information the building system functions in compliance with criteria in building documents

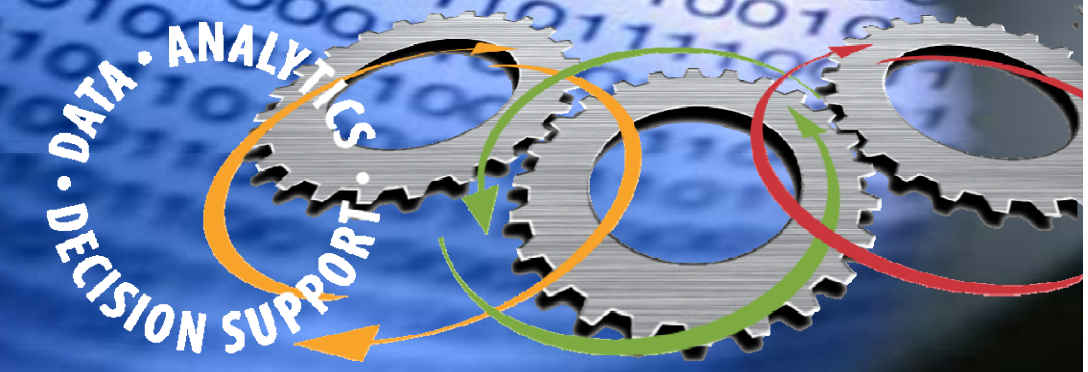
Litigation Examples

- **Building owner sued architect after tenant demanded rent rebate:**
  - advertised healthier air quality was not delivered
- **Guaranteed Gold certification was not delivered by architect:**
  - Developer wanted to use certification to attract tenants at higher rents
  - budget/time constraints
- **Defense contractor contracted for a new building:**
  - Architect provided extensive systems to provide more light
  - Large windows/skylights posed a security risk!!!
  - Owner sued the architect

Other Implications

- **Alternative Energy Sources**
  - solar/wind/tidal/nuclear/other
- **Existence Hazard**
  - Solar panels
  - Wind turbines
  - Vegetative roofs

Climate Change



Climate Change

EU needs a new approach to tackling climate change

26.02.2009 / 00:00 CET

Science News Share Blog Cite

Rising Sea Levels Set To Have Major Impacts Around The World

ScienceDaily (Mar. 11, 2009) — Research

enlarge

Irreversible climate change warning

32 minutes ago

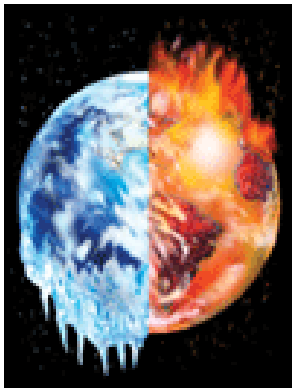
The world is facing an increasing risk of "irreversible" changes to our climate as global warming speeds beyond the worst predictions, scientists have warned.

Concern Climate change affects the whole planet REUTERS

America unprepared for climate change, say policy advisers

National Research Council claims US agencies and political leaders not getting the right information or guidance

Suzanne Goldenberg, US environment correspondent
guardian.co.uk, Thursday 12 March 2009



NYC must prep for climate change

by Lee Landor, Editor
02/26/2009

From the Los Angeles Times

California panel urges 'immediate action' to protect against rising sea levels

Global warming is projected to cause ocean levels to rise 55 inches or more by the end of the century. Report recommends phased abandonment of coastal areas and moving state infrastructure inland.
By Margot Roosevelt

March 12, 2009

Property And Liability Claims

- First party damage to property is the most obvious and widely discussed consequence of climate change
- Emphasis is increasing on the potential for claims for damages against 3rd parties
- Severity of weather events may allegedly be caused by corporations or other emitters of greenhouse gases

Potential 3rd Party Liability Litigation

- Will emitters of greenhouse gases be held liable for damages to those injured in severe weather events?
- Will commercial liability insurers be required to defend against such allegations?

Insurance Implications

- Pollution Exclusion
  - Standard exclusion or total exclusion?
- Is bodily injury or property damage alleged?
- Products claim?
- D&O?
- Architects and Engineers Professional Liability?

Potential 3rd Party Liability Litigation

- EPA did not formerly regulate greenhouse gas emissions
- Supreme Court decision (Mass. v. EPA) changed EPA focus
- Court found greenhouse gases are within Clean Air Act's definition of pollutants
- EPA now has authority to regulate greenhouse gases

Insurer Involvement

- Insurers insure carbon-intensive industries
  - Auto manufacturing, utilities and oil industries
  - Homes, autos and planes
- All can contribute to greenhouse gas emissions
- Defense costs present a major concern

Risk Management Strategies

- NAIC Task Force
- Ceres Report
- Executives: should you assess current and probable environmental risk exposure?
- Directors and officers: especially at risk
- Business continuity management: growing in importance

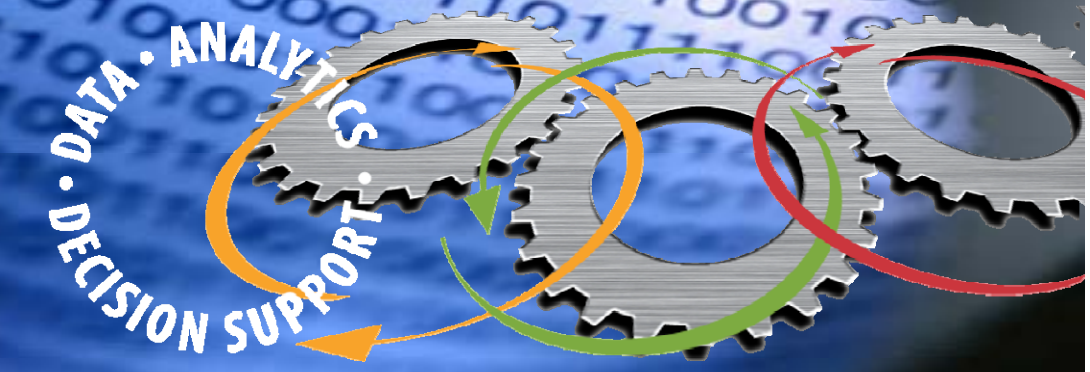
Risk Management Strategies

- Green building construction
  - Special coverage considerations
  - Policy credits
- Warmer temperatures and more moisture ⇨ mold
- Pay-as-you-drive insurance or mileage-based discounts
- Discount for hybrid cars

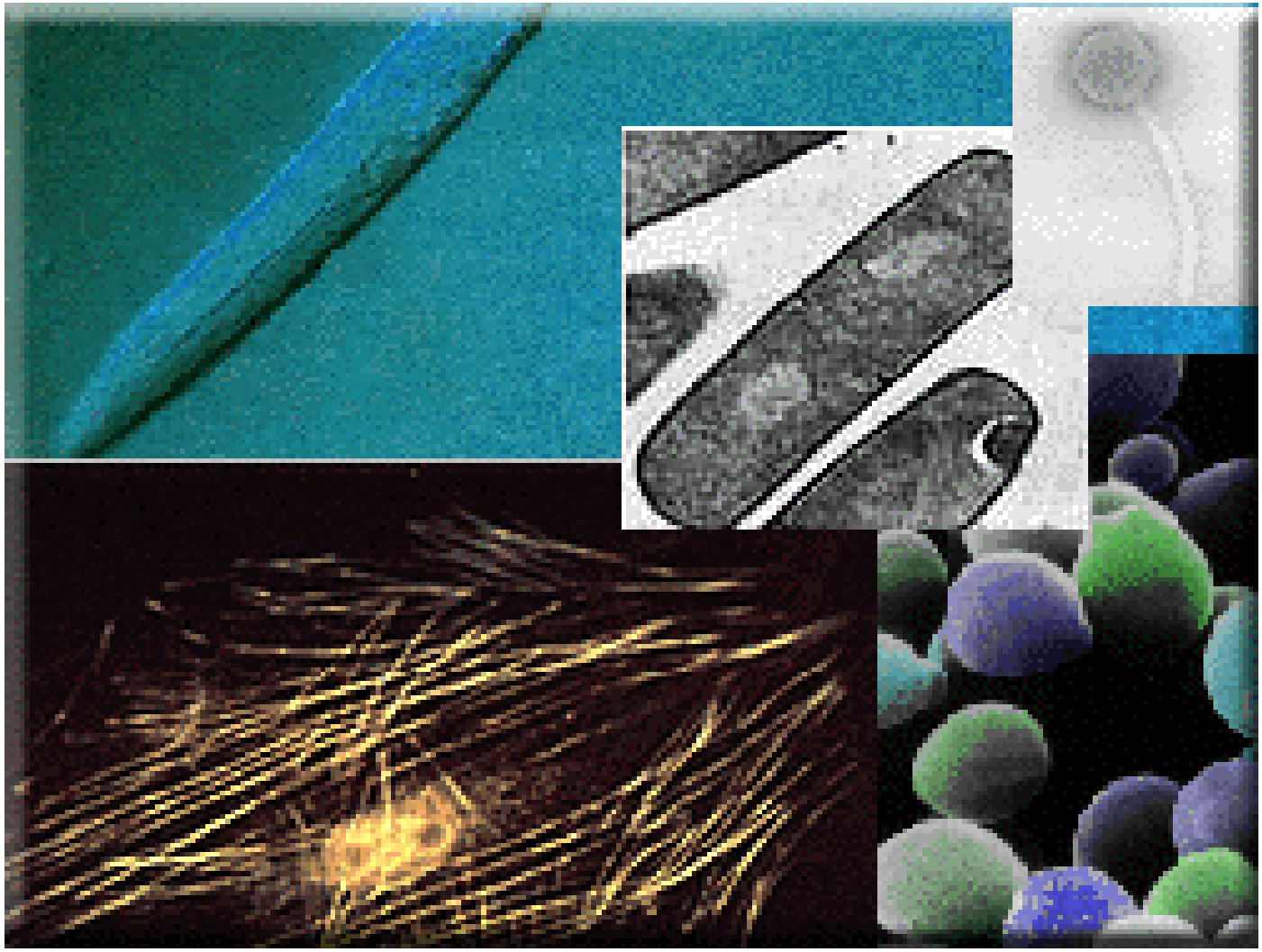
Risk Management Strategies

- Consider prior trend following cats regarding policy issuances; lapses/surrender of policies by insureds
- New insurance products for energy service providers
- Financing climate-protection improvements
- Potential correlation between sustainable practices and low risk profile

Nanotechnology



Nanotechnology



Nanotechnology

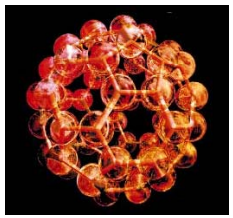
- Engineering at the atomic level
- Nanotechnology generally refers to materials with at least one dimension that can be measured at the nanometer level
- Nanometer = 1 billionth of a meter
- At this small size, materials exhibit distinct properties that affect their physical, chemical and biological behavior

Two Paths

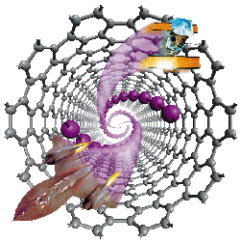
- Existing materials – properties of materials change when brought to nanoscale
  - Color
  - Conductivity
  - Reactivity
  - Electrical
  - Magnetic
  - Toxicity
- Creation of new materials

It’s A New Language

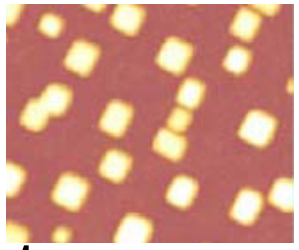
- Buckyballs
- Quantum dots
- Fullerenes
- Carbon nanotubes
- Nanospheres
- Nanocrystals



Buckyballs

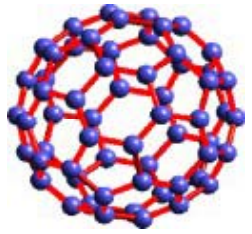


Carbon nanotubes



Quantum dots

Nanocrystals



Fullerenes

It’s a Small World

- A human hair is 50,000 to 100,000 nanometers in diameter
- Red blood corpuscle is 7,000 nanometers
- A virus = 20 to 300 nanometers
- 10 hydrogen molecules fit into one nanometer
- Over one million particles 1 nm in size would fit into the dot of this “i”

Promise of Nanotechnology

- Nanotechnology will let us snap together the fundamental building blocks of nature easily, inexpensively and in most of the ways permitted by the laws of physics
- Essential to continue the revolution in computer hardware
- Fabricate an entire new generation of products that are cleaner, stronger, lighter, and more precise
- Replace fossil fuel

Promise of Nanotechnology

- Molecular nanotechnology is destined to become the core technology underlying all of 21st century medicine
  - Nanoparticles in novel drugs to combat viruses, bacteria, and cancer
  - Artificial red blood cells
  - Artificial white blood cells
  - Tissue-repair in minutes or hours
  - Chromosome replacement to replace our old worn-out genes

Where Used

- Skin Creams; Cosmetics; Sun Block; Suntan Lotions
- Children’s Pacifiers and Toys
- Pigments and Coatings (e.g., paints)
- Plastic Wrap and Food Packaging
- Automobiles, Aircraft, Bicycles
- Clothing and Other Fabrics
- Laundry Detergent and Fabric Softeners
- Computer Chips; Computer Accessories
- Household Appliances and Other Electronics
- Sporting Equipment
- Vitamins; Medical Dressings

Other Possible Applications

- Drug delivery
- Improved diagnostics
- Tumor killers/cancer cell hunters
- Materials 100 X stronger but 1/6 the weight of steel
- Superconducting materials
- Much smaller, more powerful batteries
- Minute solar cells
- Super efficient hydrogen-based fuel cells

What's The Problem

- The lack of information about whether material at the nanoscale level can pose novel or unexpected hazards
- Not enough attention being given to potential negative consequences
- At this point, there appears to be no confirmed cases of harm to humans

Exposures Already Exist

- In 2008, over 800 nanoproducts available (a +279% increase since 2006 [212])
  - Over 425 nanoproducts manufactured in the U.S.
  - 2 million+ U.S. workers exposed to nanomaterial particles on a regular basis
- Over 1,000 nano-related patents
- Hundreds of tons of nanomaterials produced in U.S. yearly

Effects On Human Body

- Skin - can penetrate skin
- Ingestion - can enter the digestive tract and intestinal tissue:
  - Drinking water
  - Food additives
  - Atmospheric dust
  - Toothpaste

Effects On Human Body

- Respiratory
  - Ultra-fine particles are more damaging when inhaled
  - The particles may not be exhaled
  - Can enter bloodstream
  - Concern about inhaling carbon nanotubes, which resemble asbestos fibers
  - Some particles can enter directly into the brain

Risk Management Concerns - Workplace

- 2 million workers exposed daily
- Safety precautions are deficient
- Toxic effects are generally unknown
- Protective measures in conjunction with a continuing program of risk analysis is necessary

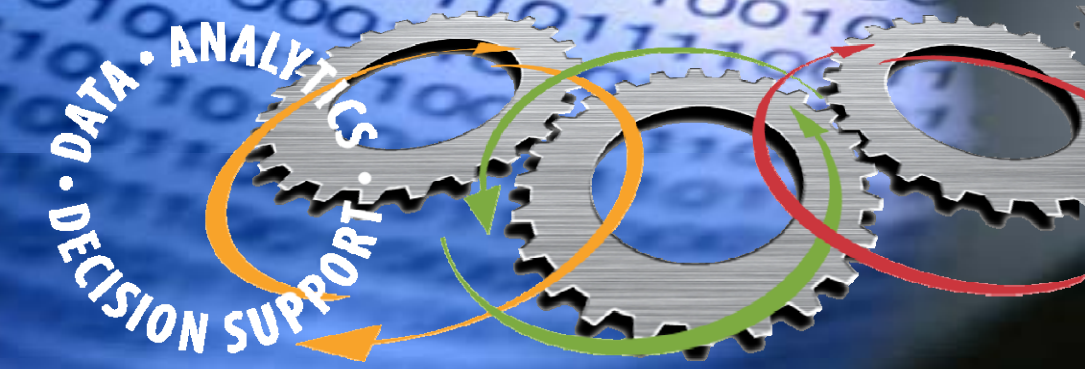
Risk Management Concerns - Environmental

- Nanoparticles are highly mobile
- Contamination to water supply and soil
- Human and animal food chain could be affected

Regulation

- Fit into existing regulatory schemes?
- Currently there are no:
  - Labeling requirements
  - Special toxicity assessments
  - Common nomenclature
  - Risk assessment tools
  - Standards for evaluation

The Economy



The Headlines

- Unemployment reaches new highs…
- Bankruptcies on the rise…
- Factory closings…
- Stock market reaches new lows…
- Foreclosures accelerating…
- Recession? Depression? (Does it matter?)

The Economy

- **Following a long period of prosperity…**
  - personal “wealth” has been redefined
    - real estate values
    - retirement savings
    - conspicuous consumption
  - business is struggling to stay alive
    - workforce reductions
    - benefit reductions
    - increased competition for fewer dollars

The Economy

- **Following a long period of prosperity…**
  - government is facing significant stress on:
    - public protection
      - police, fire and EMS
    - facilities maintenance
      - roads, bridges, parks
    - public services
      - shelter, food, counseling
    - medical services

Insurance Implications

- **CRIME**
  - increase in burglary/robbery
  - employee theft
  - insurance fraud
  - financial scams & cyber crime
- **EMPLOYMENT-RELATED PRACTICES**
  - wrongful termination
  - discrimination based on age, race, etc.

Insurance Implications

- **PROPERTY**
  - Arson (to escape upside-down loans)
  - Vacancies
    - increased hazard
    - coverage limitations
  - Unfinished projects
  - Idle Equipment
    - construction equipment
    - fleet vehicles

Insurance Implications

- **PROPERTY (Cont'd)**
  - Deferred maintenance
    - automobiles
    - buildings & machinery
  - Substandard repairs
    - "do-it-yourself"
    - lowest bidder
  - Reliance on Suppliers/Customers/Leader locations

Insurance Implications

- **LIABILITY**
  - quality of product components
  - premises exposures from deferred maintenance
  - Failure to perform
- **D&O**
  - failure to anticipate market conditions
  - failure to perform adequate due diligence
- **WORKERS COMPENSATION**

Insurance Implications

- lower sales = less premium
- lower payroll = less premium
- Underwriting & Risk Management more important now than ever
- Companies that remain focused can be well positioned to ride out the current storm

Insurance Implications

- **Watch your classifications**
  - contractors acting as jack-of-all-trades
  - shops venturing outside of specialties
  - vacant buildings
- **Close attention to premium base**
  - barter as sales
  - understand reason behind reductions:
    - payroll
    - sales

Insurance Implications

- **Evaluate rating plan applications**
  - management and employees
  - maintanence and protection
  - building, premises and equipment

EMERGING ISSUES

WHAT NEW ISSUES ARE YOU SEEING?

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Emerging Issues Affecting Insurance

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