



The Global Financial Crisis and Its Impacts on the Property/Casualty Insurance Industry

Energy Markets Trends and Challenges

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Presentation Outline

- The Global Economic Storm: what the weakening economy and financial crisis mean for the property/casualty insurance industry and energy concerns
 - Recession, growth and insurance
- Economic Stimulus Packages Worldwide
 - Impacts and implications for property/casualty insurers and the energy sector
- Impacts of Crisis on Energy Demand, Supply and Infrastructure Investment



Presentation Outline

- Insurance Industry Status, Strength and Performance
 - Insurers vs. Banks: a difference of approach to risk management
- Energy Insurance Market Review
 - Capacity, rating, exposure, profitability, reinsurance
- Catastrophe Losses
- Regulatory Response to Crisis
 - Emerging blueprint for insurance regulatory overhaul



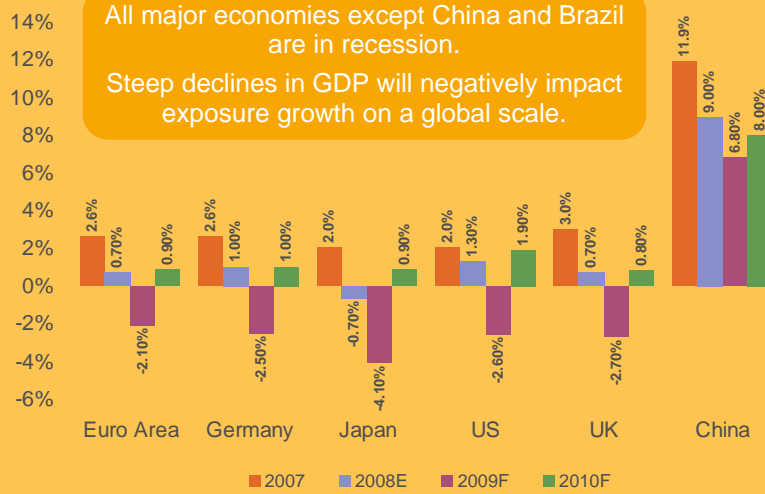
The Global Economic Storm

What weakening economies and the financial crisis mean for the insurance industry and energy concerns



Real GDP by Market 2007-2010F

Percentage change from previous year



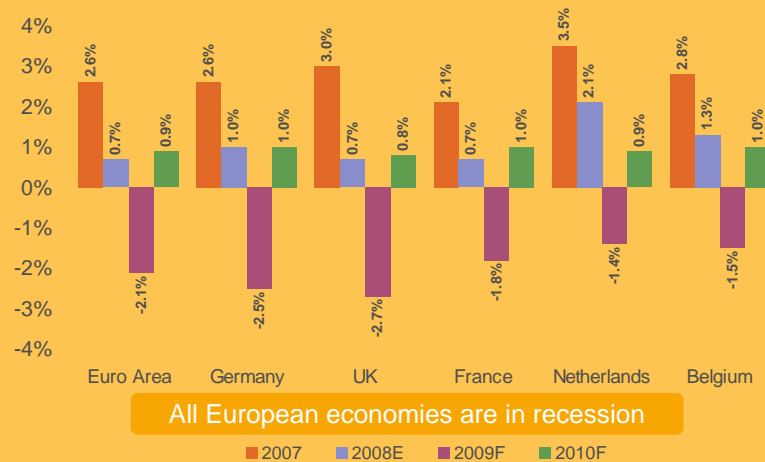
Source: Blue Chip Economic Indicators, 3/10/09 edition.

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Real GDP for Largest European Economies and Euro Area, 2007-2010F

Percentage change from prior year

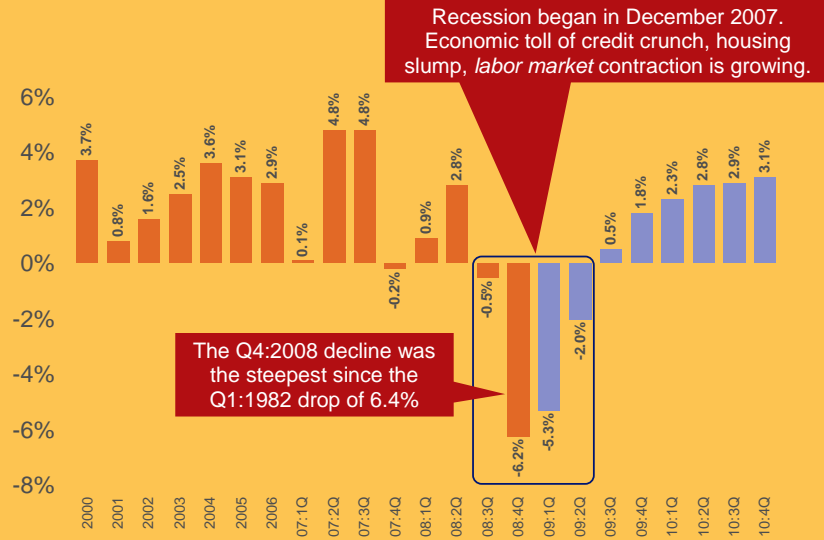


Source: Blue Chip Economic Indicators, 3/10/09 edition.

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US Real GDP Growth*

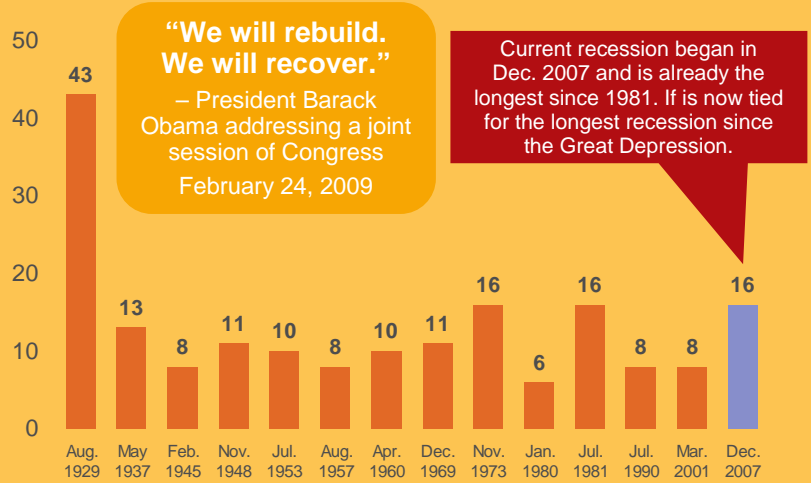


*Yellow bars are Estimates/Forecasts from Blue Chip Economic Indicators.



Length of US Recessions, 1929-Present*

Months in duration

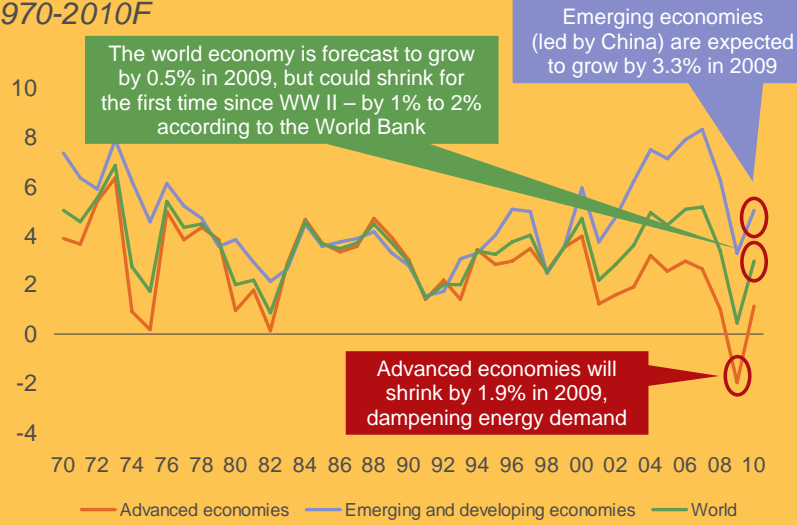


* As of April 2009
Sources: National Bureau of Economic Research; Insurance Information Institute.



GDP Growth: Advanced and Emerging Economies vs. World

1970-2010F

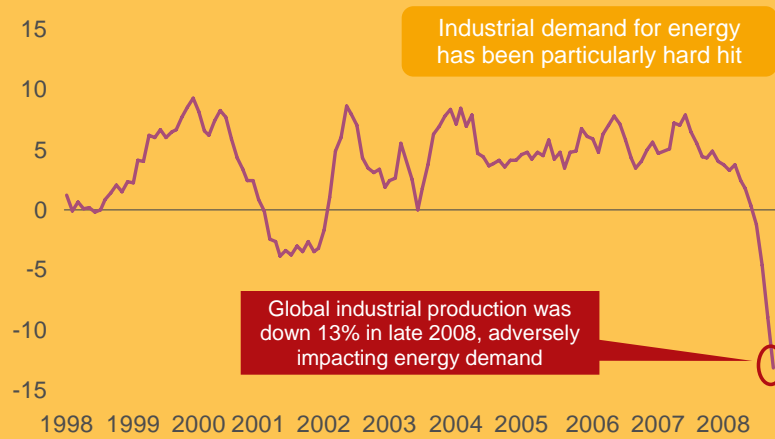


Source: International Monetary Fund, *World Economic Outlook Update*, Jan. 28, 2009; Ins. Info. Institute.



Global Industrial Production Is in a Tailspin, Reducing Energy Demand

Annualized 3-month percent change

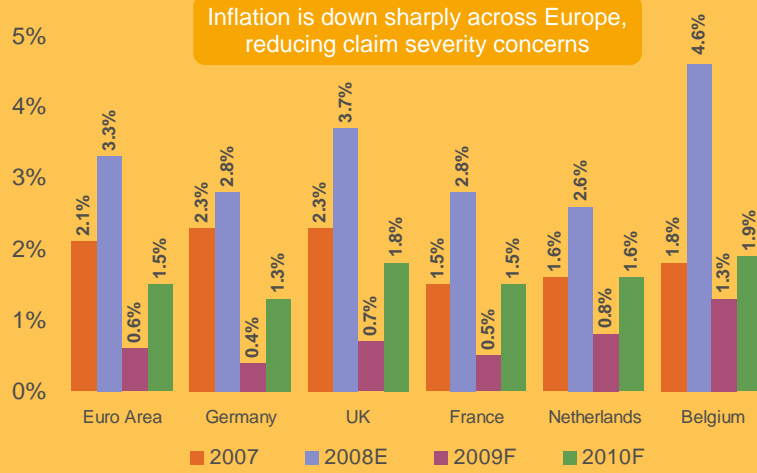


Source: International Monetary Fund, *World Economic Outlook Update*, Jan. 28, 2009; Ins. Info. Institute.



Inflation Rates for Largest European Economies and Euro Area, 2007-2010F

Percent change from prior year



Source: Blue Chip Economic Indicators, 3/10/09 edition.

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The \$2.75 Trillion Global Economic Stimulus

Countries trying to spend their way out of recession will need more energy and more insurance

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Short-run Impacts of Global Stimulus Packages on Property/Casualty Insurance, Energy Sectors

- No stimulus provisions specifically address property/casualty insurance in US and unaware of provisions in other countries
 - Spending, aid and tax reductions benefit other industries, state and local governments, as well as individual and some corporate taxpayers
- Stimulus package is unlikely to increase US net premiums written by more than 1% or approximately \$4.5 billion in US by 2010
 - Little-to-modest impact in Europe and elsewhere
- Several stimulus countries' plans direct spending toward the energy sector
- Stimulus plans in US, Europe, China and Japan have numerous "green" provisions that could influence supply and demand for energy

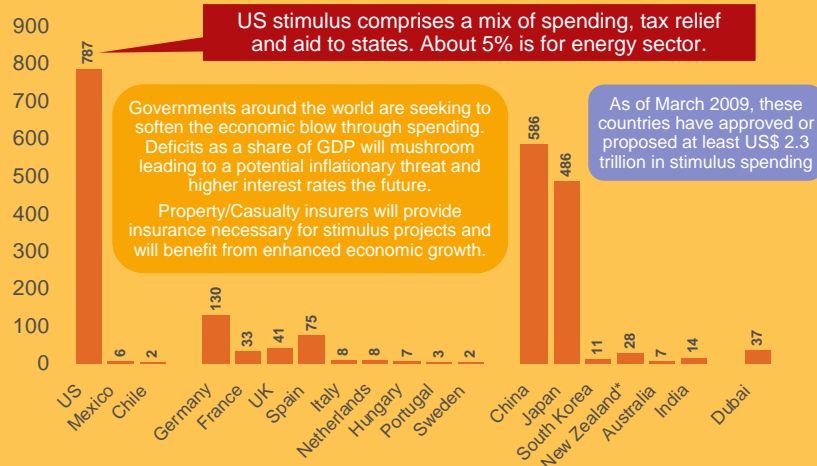
Source: Insurance Information Institute

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Announced Economic Stimulus Packages Worldwide

US\$ billions as of March 2009



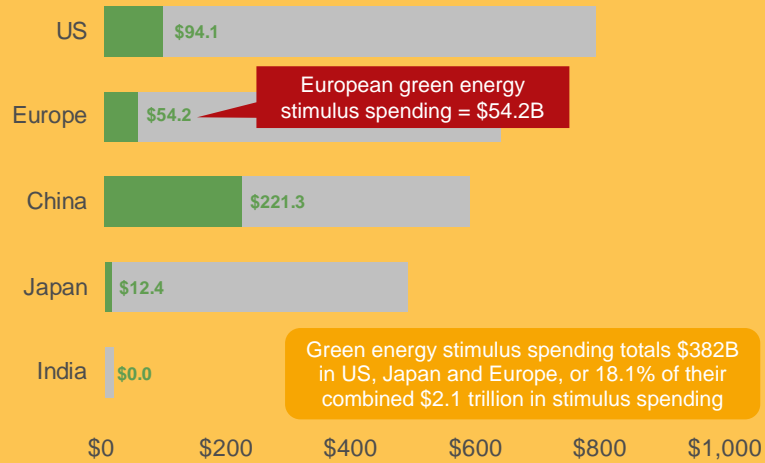
Sources: Wall Street Journal, January 8, 2009 with updates by I.I.I., Institute of International Finance and Brookings Institute.

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Green Energy Spending: An Important Component of Some Stimulus Plans

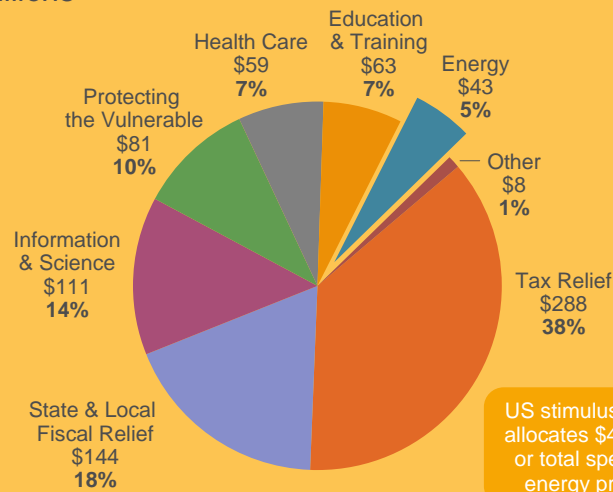
US\$ billions



Source: "Energy Sector Looks for Private, Public Help," WSJ, 3/9/09, p. A2 from HSBC, New Energy Finance; Ins. Info. Inst.

US Economic Stimulus Package: Where the \$787B Goes – 5% to Energy Projects

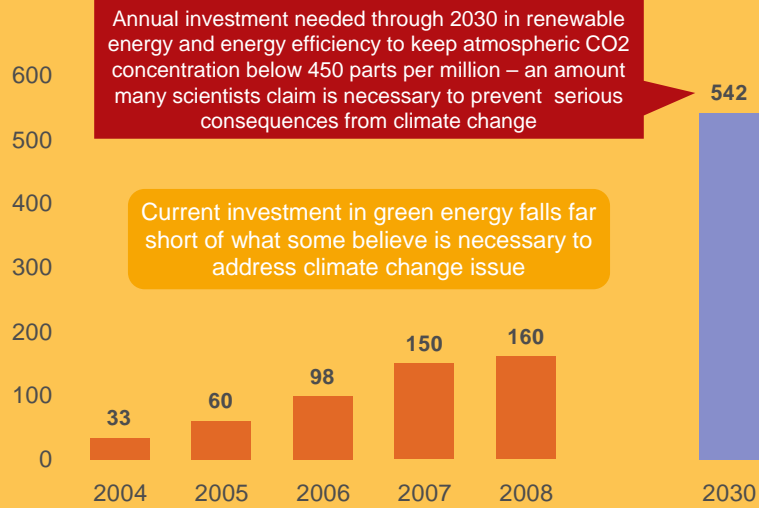
US\$ billions



Source: <http://www.recovery.gov/> accessed 2/18/09; Insurance Information Institute.

Global Green Energy Spending*

US\$ billions



*Estimated from source below.

Source: "Energy Sector Looks for Private, Public Help," WSJ, 3/9/09, p. A2; New Energy Finance interpretation of International Energy Agency data; Ins. Info. Inst.

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The Global Financial Crisis Affects Energy Industry Supply and Demand and Insurance Exposure

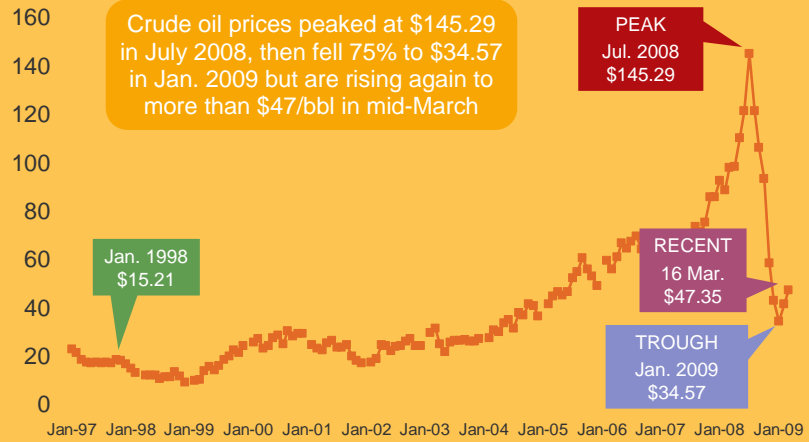
Impacts of crisis on energy demand are temporary: long-term investment remains essential

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World Crude Oil Prices: 1997- March 2009

Dollars per barrel*



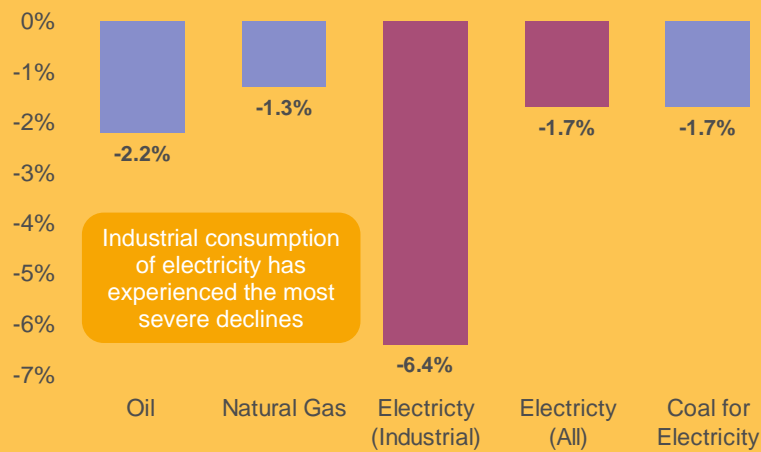
*All countries spot market price weighted by estimated export volume.

Source: Energy Information Administration; <http://tonto.eia.doe.gov/dnav/pet/hist/wotworldw.htm>



Severe Recession Is Depressing Energy Demand: Change 2009 vs. 2008

Percentage change in US consumption

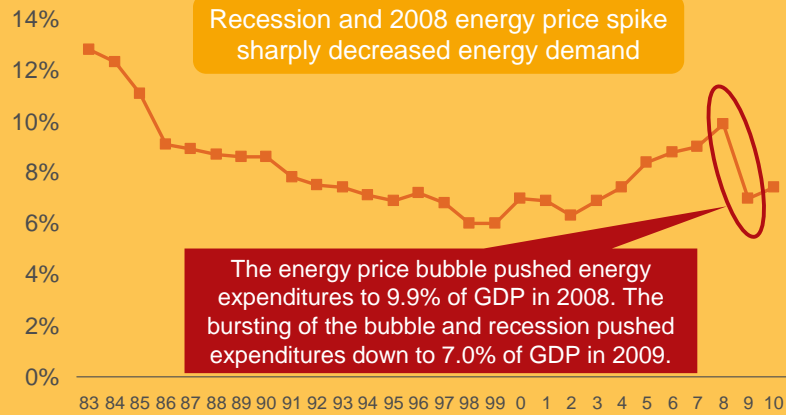


Sources: Energy Information Administration.



US Energy Expenditures As a Percentage of GDP Have Been Hurt by Recession

Percentage of GDP

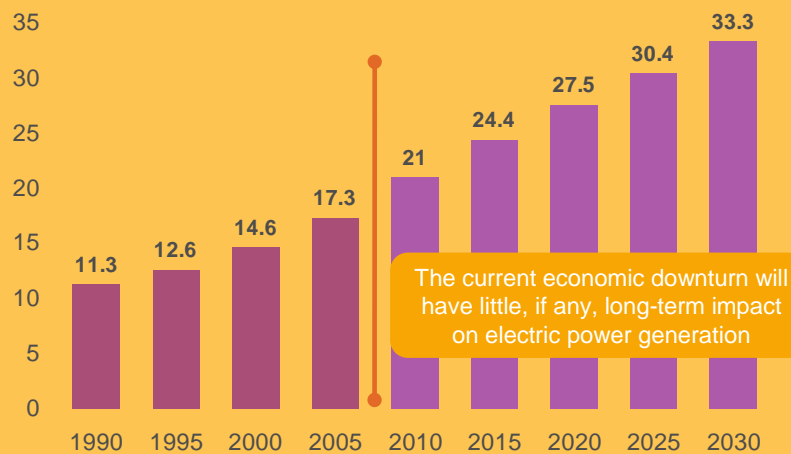


Source: Energy Information Administration, Short-Term Energy Outlook, March 10, 2009; Ins. Info. Inst. **AEGIS European Energy Conference**



World Net Effective Electric Power Generation, 1990-2030 (est.)

Trillions of kilowatt hours



Source: Energy Information Administration, 2008 International Energy Outlook, Insurance Information Institute. **AEGIS European Energy Conference**

Electricity Supply Infrastructure: Despite Crisis, Huge Investments Needed Along with Insurance, 2001-2030 (est.)

US\$ billions

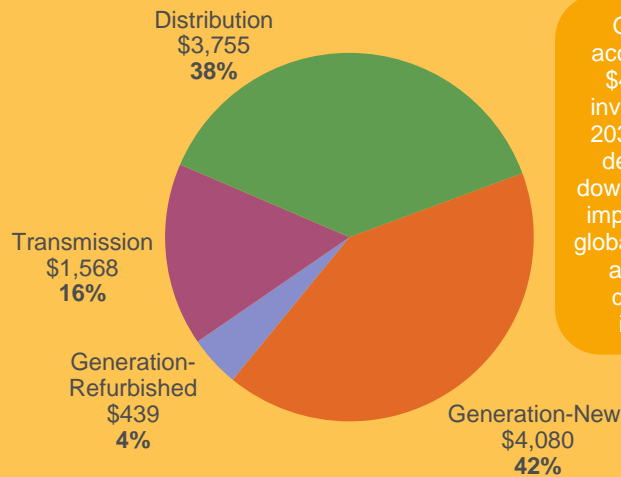


Source: International Atomic Energy Agency, World Outlook for Electricity Investment.

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World Energy Supply Infrastructure Investment by Category, 2001-2030 (est.)

US\$ billions



Generation will account for 46% or \$4.5 trillion of all investment through 2030 to meet rising demand. Current downturn will have no impact on long-term global energy demand and the need to develop supply infrastructure.

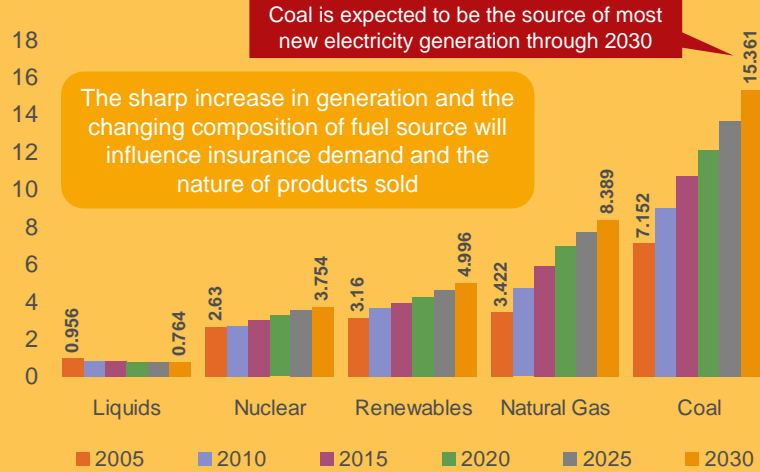
Source: International Atomic Energy Agency, World Outlook for Electricity Investment.

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World Electricity Generation by Fuel 2005-2030F

Trillions of kilowatt hours

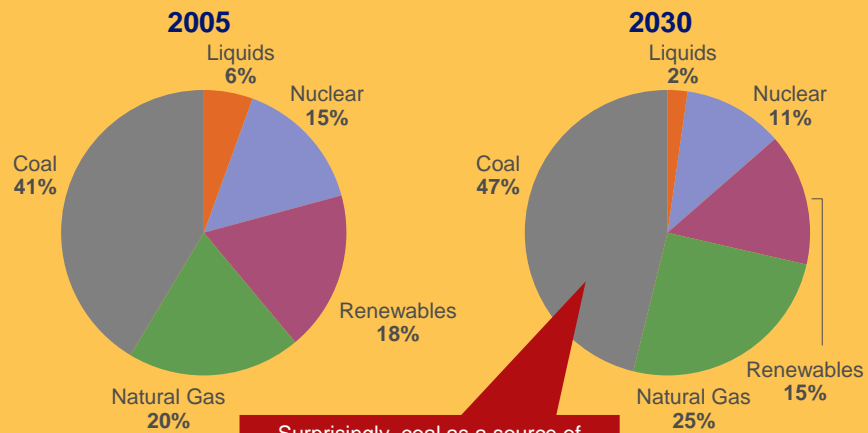


Source: US Department of Energy Report #:DOE/EIA-0484 (Sept. 2008); Insurance Information Institute AEGIS European Energy Conference



World Electricity Generation by Fuel Source Share 2005 vs. 2030F

2005 vs. 2030F

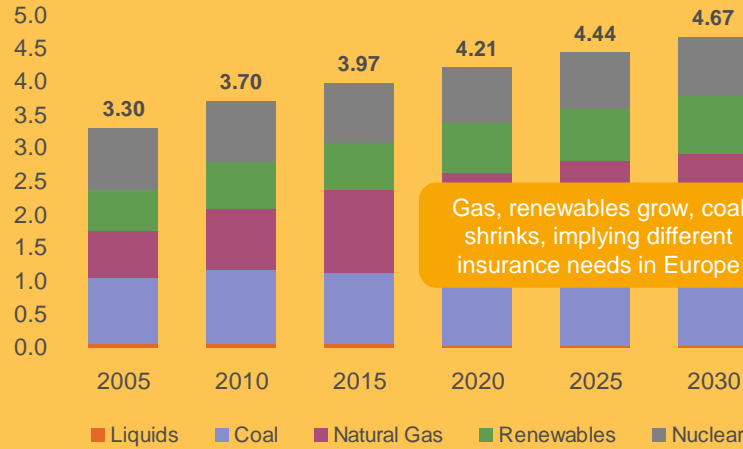


Surprisingly, coal as a source of electricity generation is expected rise through 2030. CO₂, pollution issues?

Source: Insurance Information Institute from data reported in US Department of Energy Report #:DOE/EIA-0484 (Sept. 2008). AEGIS European Energy Conference

European Electricity Generation by Fuel, 2005-2030F

Trillions of kilowatt hours

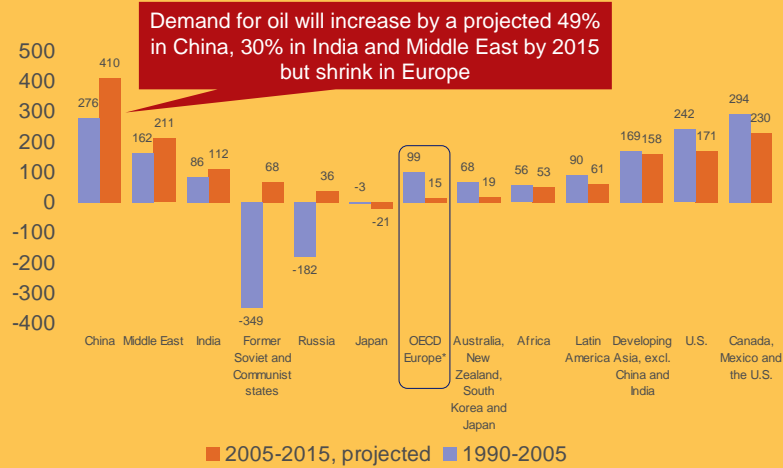


Gas, renewables grow, coal shrinks, implying different insurance needs in Europe

Source: US Department of Energy Report #:DOE/EIA-0484 (Sept. 2008); Insurance Information Institute **AEGIS European Energy Conference**

Average Annual Change in Consumption of Crude Oil in Major World Regions

000 Barrels per day



Demand for oil will increase by a projected 49% in China, 30% in India and Middle East by 2015 but shrink in Europe

*Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey and UK.

Source: Wall Street Journal, January 3, 2008 edition; International Energy Agency

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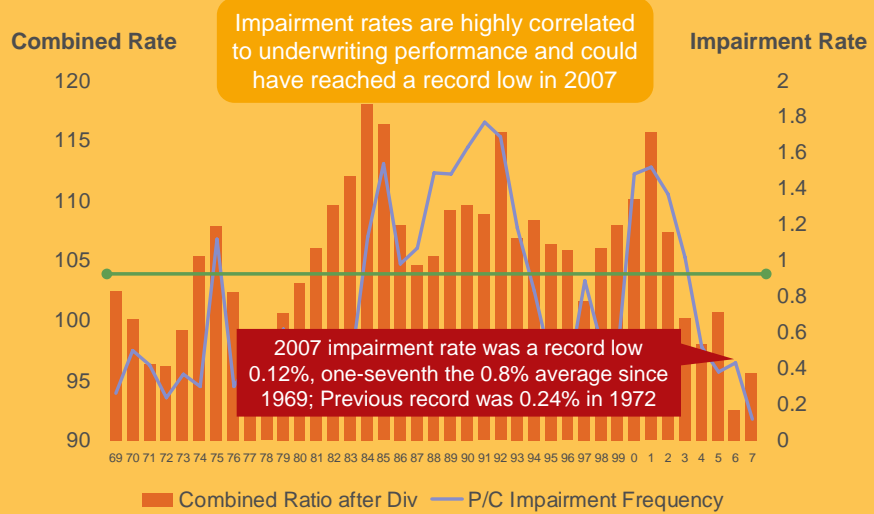


Insurance Industry Status, Strength and Performance

Insurance industry has weathered the financial storms well



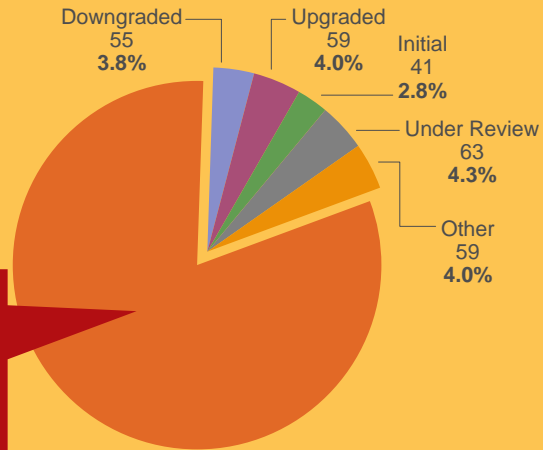
US Property/Casualty Insurer Impairment Frequency vs. Combined Ratio, 1969-2007



Summary of A.M. Best's Property/Casualty Insurer Ratings Actions in 2008*

Property/casualty insurance is by design a resilient business. The dual threat of financial disasters and catastrophic losses are anticipated in the industry's risk management strategy.

Despite financial market turmoil, high cat losses and a soft market in 2008, 81% of ratings actions by A.M. Best were affirmations; just 3.8% were downgrades and 4.0% upgrades



*Through December 19.
Source: A.M. Best.

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Low Interest Rates Are Hurting Insurer Investment Income

10-year government bonds as of mid-March 2009



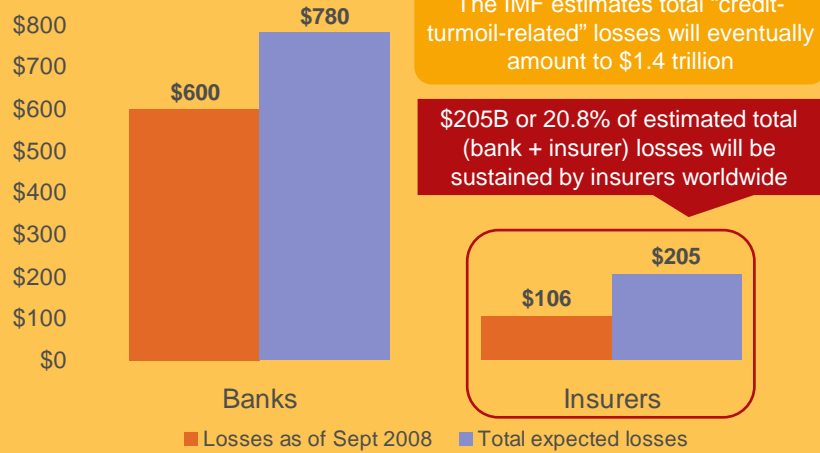
Yields on long-term investments are low by historical standards, hurting investment returns and pressuring pricing

Sources: Energy Information Administration.

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Financial Institutions Globally Facing Huge Losses from the Credit Crunch*

US\$ billions



The IMF estimates total "credit-turmoil-related" losses will eventually amount to \$1.4 trillion

\$205B or 20.8% of estimated total (bank + insurer) losses will be sustained by insurers worldwide

*Global losses since the beginning of 2007. Includes life insurers.

Source: IMF Global Financial Stability Report, October 2008, IIF, Bloomberg, cited in a presentation by AEGIS European Energy Conference Thomas Hess (Chief Economist, Swiss Re) October 23, 2008, accessed via Geneva Association web site.

Critical Differences between Property/Casualty Insurers and Banks

Superior risk management model and low leverage make a big difference on a global scale



Reasons Why Property/Casualty Insurers Have Fewer Problems Than Banks

A superior risk management model

- **Emphasis on underwriting**
 - Matching of risk to price (via experience and modeling)
 - Limiting of potential loss exposure
 - Some banks sought to maximize volume and fees and disregarded risk
- **Strong relationship between underwriting and risk bearing**
 - Insurers always maintain a stake in the business they underwrite, keeping “skin in the game” at all times
 - Banks and investment banks package up and securitize, severing the link between risk underwriting and risk bearing, with (predictably) disastrous consequences – straightforward moral hazard problem
- **Low leverage**
 - Insurers do not rely on borrowed money to underwrite insurance or pay claims → There is no credit or liquidity crisis in the insurance industry

Source: Insurance Information Institute

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Reasons Why Property/Casualty Insurers Have Fewer Problems Than Banks

A superior risk management model (cont.)

- **Conservative investment philosophy**
 - High-quality portfolio that is relatively less volatile and more liquid
- **Comprehensive regulation of insurance operations**
 - The business of insurance remained comprehensively regulated whereas a separate banking system had evolved largely outside the auspices and understanding of regulators (e.g., hedge funds, private equity, complex securitized instruments, credit derivatives – CDS's)
- **Greater transparency**
 - Insurance companies are an open book to regulators and the public

Source: Insurance Information Institute

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How Insurance Industry Stability Has Benefitted Consumers Globally

Bottom line:

- Insurance markets – unlike banking – are operating normally worldwide
- The basic function of insurance – the orderly transfer of risk from client to insurer and insurer to reinsurer – continues uninterrupted
- This means that insurers continue to:
 - Pay claims (whereas many US and European banks have failed)
 - The promise is being fulfilled
 - Renew existing policies (banks are reducing and eliminating lines of credit)
 - Write new policies (banks are turning away people who want or need to borrow)
 - Develop new products (banks are scaling back the products they offer)

Source: Insurance Information Institute

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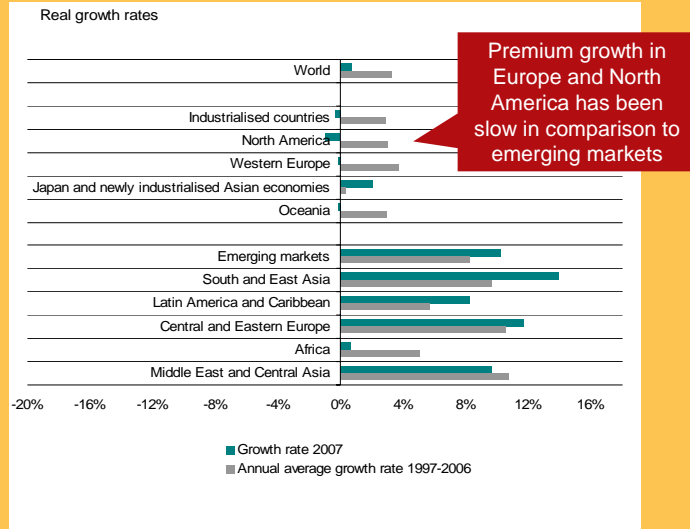
Property/Casualty Insurance Financial Performance

A resilient industry in challenging times

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Non-Life (PC) Premium Growth by Region, 1997-2006 and 2007



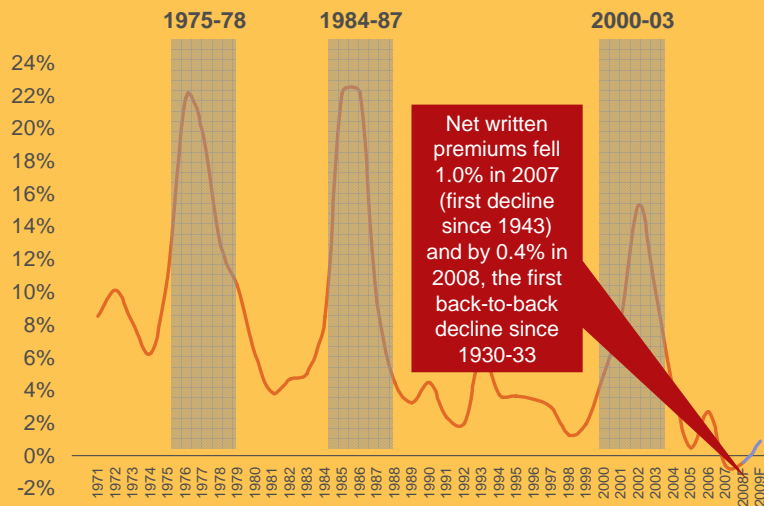
Premium growth in Europe and North America has been slow in comparison to emerging markets

*Figures include both insured and uninsured losses
Source: Swiss Re



Strength of Recent Hard Markets by NWP Growth

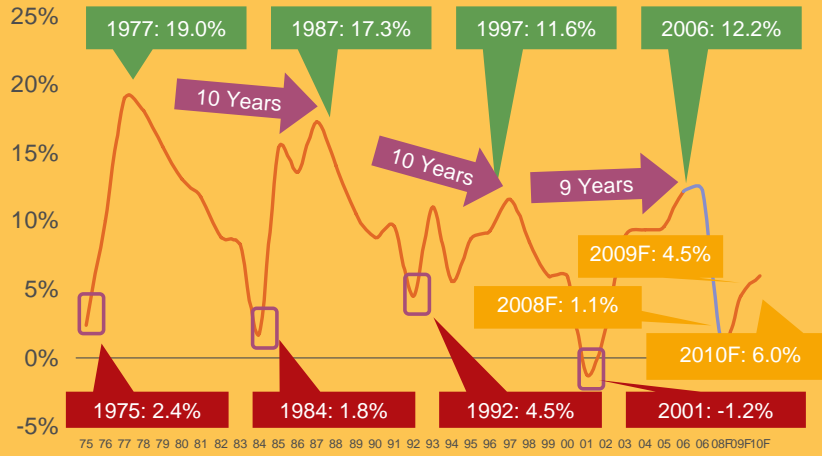
Shaded areas denote "hard market" periods



Sources: A.M. Best (historical and forecast), ISO, Insurance Information Institute



Property/Casualty Insurance Industry ROEs 1975-2010F*



Note: 2009 figure is actual 9-month result.
Sources: ISO; Insurance Information Institute.



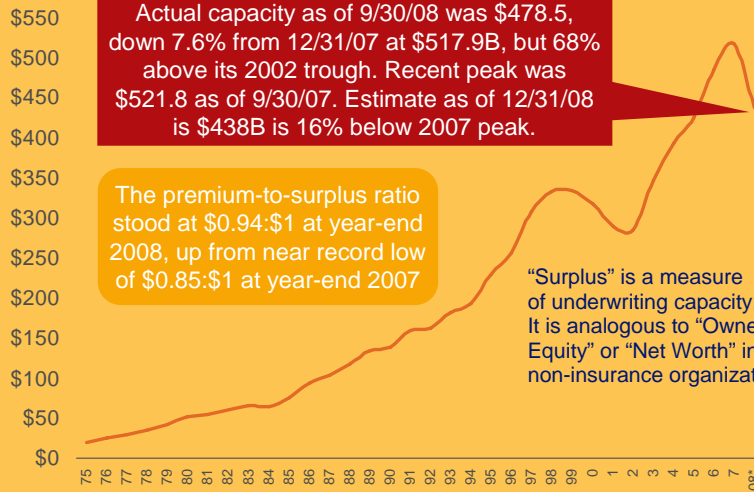
Capital/Policyholder Surplus

Shrinkage, but capital is within historic norms



US Policyholder Surplus, 1975-2008*

US\$ billions



Actual capacity as of 9/30/08 was \$478.5, down 7.6% from 12/31/07 at \$517.9B, but 68% above its 2002 trough. Recent peak was \$521.8 as of 9/30/07. Estimate as of 12/31/08 is \$438B is 16% below 2007 peak.

The premium-to-surplus ratio stood at \$0.94:\$1 at year-end 2008, up from near record low of \$0.85:\$1 at year-end 2007

"Surplus" is a measure of underwriting capacity. It is analogous to "Owners Equity" or "Net Worth" in non-insurance organizations.

Source: A.M. Best, ISO, Insurance Information Institute.
*Towers Perrin estimate as of 12/31/08



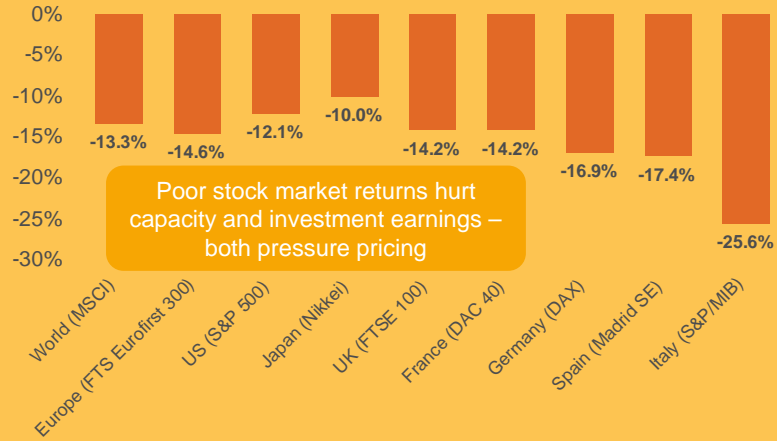
Investment Performance

Investments are the principle source of declining profitability



Poor Stock Market Returns Continue to Hurt Insurers Investment Earnings

Percentage Change 31 Dec. 2008 to 18 March 2009



Poor stock market returns hurt capacity and investment earnings – both pressure pricing

Sources: Energy Information Administration.

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Energy Insurance Market Review

Global energy business is deeply impacted by crisis, but other factors matter too

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Global Energy Insurance Markets

Key trends

- Capacity
- Exposure
- Profitability
- Reinsurance



Global Energy Insurance Markets

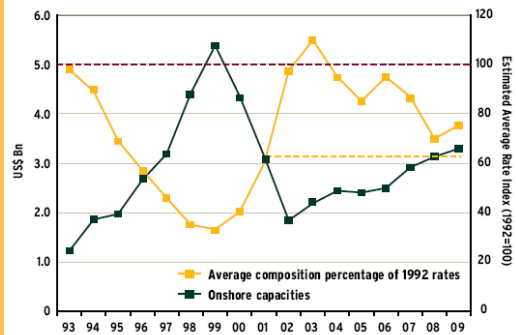
Key trends

Insurance capacity

- Aggregate commercial property/casualty (nonlife) capacity fell sharply in 2008 due to
 - Reduced Asset Values
 - Higher Underwriting Losses
 - Sharply Lower Investment Returns
- Surprisingly, overall energy market capacity levels for 2009 have increased, despite start of early stage of market hardening, financial crisis and dislocations of key competitors
- Higher capacity and basic laws of supply and demand temper extent of market hardening and limit price gains
- Capacity freed up due in part to reduced construction activity and reduced business interruption levels
- Fallout from Gulf of Mexico windstorm causes some supply issues for offshore and onshore risks

Onshore Capacities and Average Rating Levels, 1993-2009 (excl. GOM)

Energy Insurer Capacities and Average Rating Levels, 1993-2009 (excluding Gulf of Mexico windstorm)



In general terms, average rating levels for downstream still remain above those of the immediate pre-9/11 market

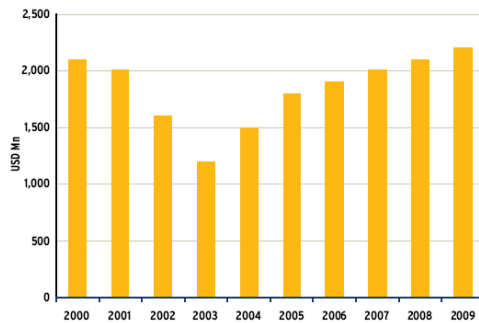
Source: Willis

Source: Willis Energy Market Review: March 2009

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Total Theoretical Liability Capacity, 2000-2009

Total Theoretical Liability Capacity, 2000-09



Our chart illustrates our estimate of total theoretical liability capacity. The continued health of the liability market is demonstrated with plenty of opportunity to create competition.

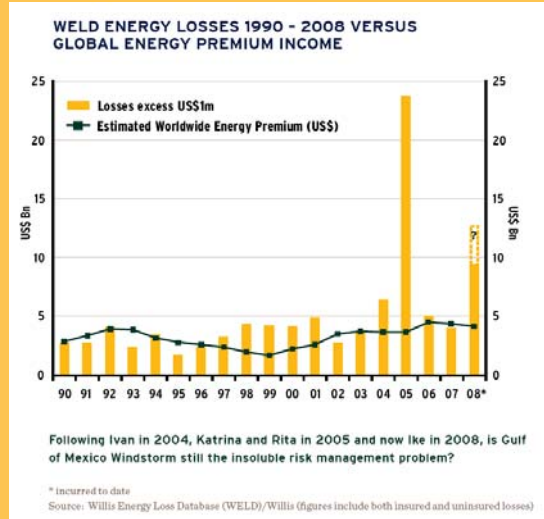
Source: Willis

Source: Willis Energy Market Review: March 2009

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Energy Losses vs. Global Energy Premium Income, 1990-2008*



*Figures include both insured and uninsured losses
Source: Willis Energy Market Review: March 2009



Global Energy Insurance Markets

Key trends

Insured exposure

- Global economic downturn, reduced energy demand and collapse of oil prices hit energy industry project activity and asset values with negative impact on energy insurers' exposure and therefore premium income levels
- Impact is especially acute for industrial energy demand
- Credit crisis impacting project viability as well
- **Bottom line in 2009:** Crisis will have little impact on long-run demand and supply for energy and energy assets
 - Global energy demand will begin to rebound in late 2009
 - Fuel prices are already beginning to rise
 - Insurance industry will be able to meet the short, intermediate and long-term demands despite current challenges

Source: Willis Energy Market Review March 2009; Insurance Information Institute.



Global Energy Insurance Markets

Key trends

Profitability

- Sharp decline in investment returns in 2008, unlikely to turnaround anytime soon
- Loss of investment return necessarily increases pressure on (re)insurers to generate underwriting profits
- Many insurers will also need to protect capital in 2009 via increased reliance on reinsurance
- Higher cost of capital could be a major issue if capital raises are necessary among for insurers and reinsurers
- **Bottom line in 2009:** Stable and profitable energy sector (for the most part) particularly for low Nat Cat business
 - Movement toward disciplined underwriting is necessary

Source: Willis Energy Market Review March 2009; Insurance Information Institute.

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Global Energy Insurance Markets

Key trends

Reinsurance

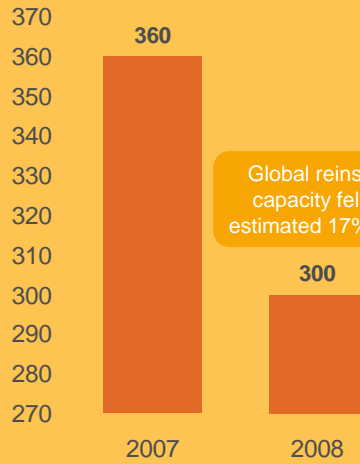
- Across energy and other industry sectors
- Capacity is down, demand is up

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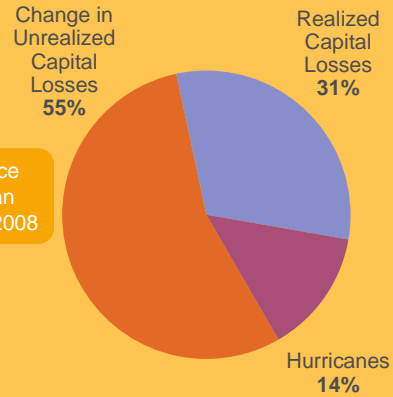


Global Reinsurance Capacity Shrank in 2008, Mostly Due to Investments

Global Reinsurance Capacity



Source of Decline



Source: AonBenfield Reinsurance Market Outlook 2009; Insurance Information Institute.

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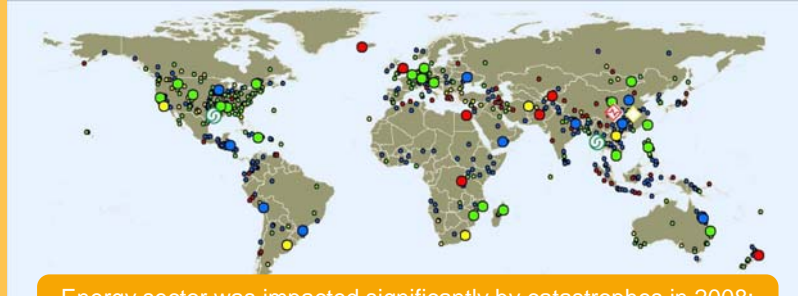


Catastrophe Losses: Global Overview

The energy sector worldwide is vulnerable to increasing natural catastrophe activity

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Natural Catastrophes in 2008 by Type and Location



Energy sector was impacted significantly by catastrophes in 2008: Ike, European Wind/Winter Storms, China Earthquake

- 750 natural hazard losses events
- Significant loss events
- Great natural catastrophes
- Hurricane Ike (Sept. 6-14, 2008) Caribbean, USA
- Cyclone Nargis (May 2-5, 2008) Myanmar
- Earthquake (May 12, 2008) China
- Winter damage (Jan 10-Feb 13, 2008) China
- Geophysical (earthquake, tsunami, volcanic)
- Meteorological (storm)
- Hydrological (flood, mass movement)
- Climatological (extreme temperature, drought, wildfire)

Source: 2009 Münchener Rückversicherungs-Gesellschaft, Geo Risk Research, NatCatSERVICE. As of January 2009

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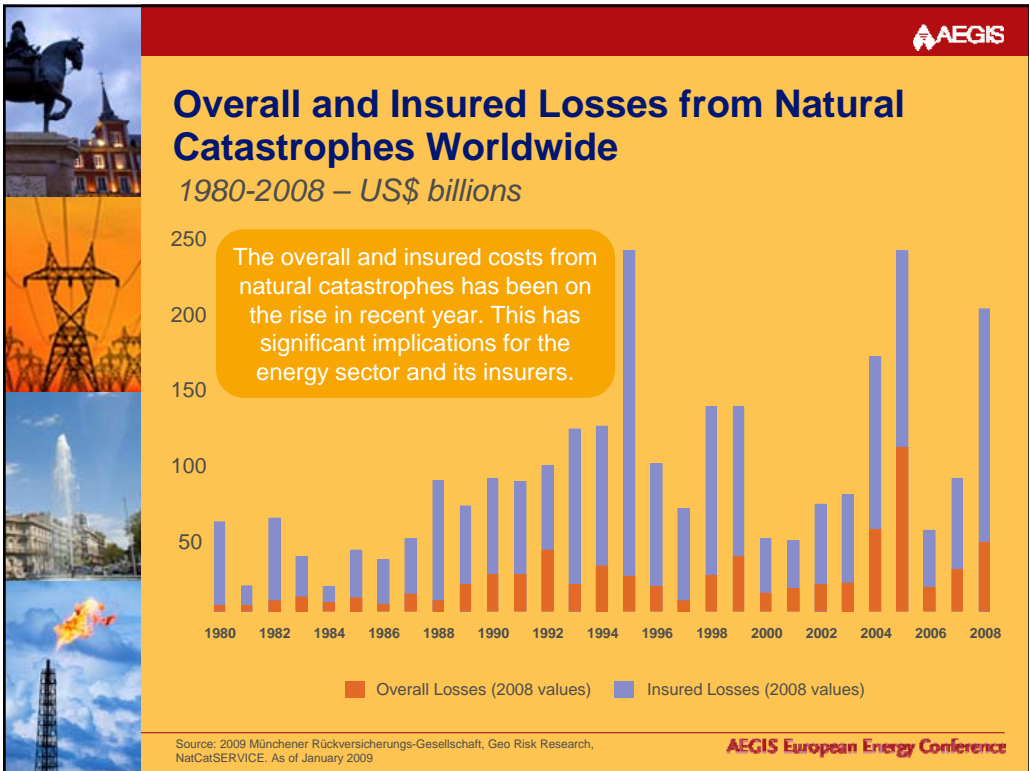
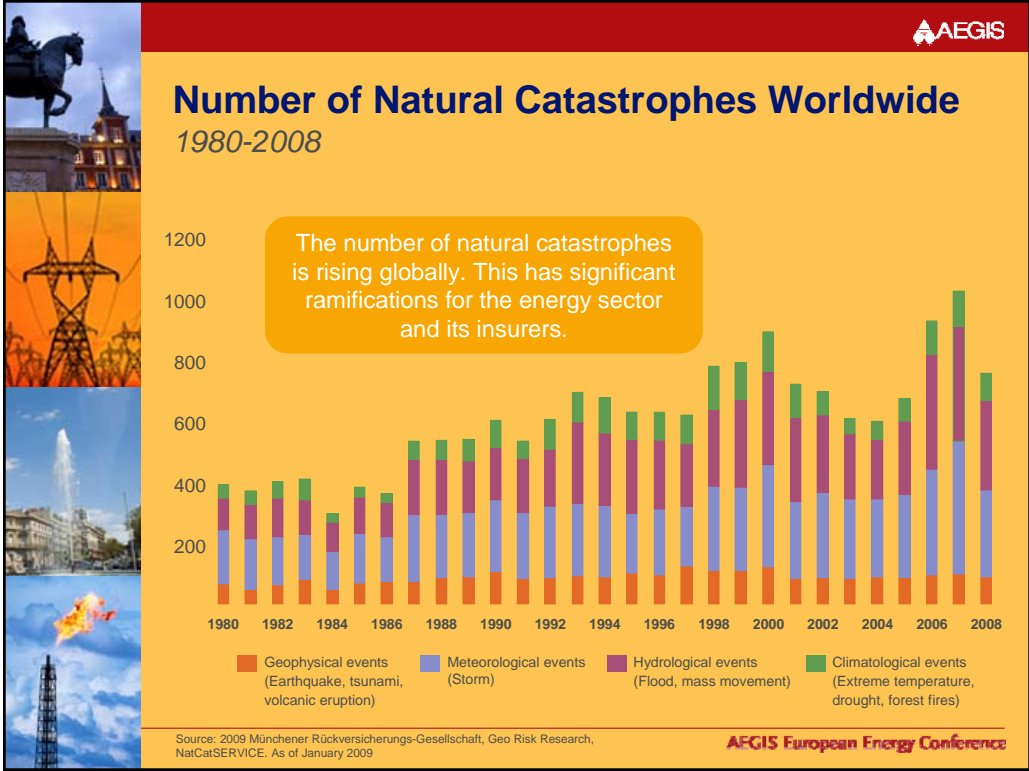
Some of the Costliest Natural Catastrophes in 2008 Impacted the Energy Business and Its Insurers Significantly

Deadliest catastrophes			
Date	Event	Area	Death
May	Cyclone Nargis	Myanmar	84,500
May	Earthquake	China	70,000
January	Cold wave	Afghanistan, Kyrgyzstan, Tajikistan	1,000
August/September	Floods	India, Nepal, Bangladesh	635
Costliest catastrophes (overall losses)			US\$m
May	Earthquake	China	85,000
September	Hurricane Ike	Caribbean, USA	30,000
January/February	Winter damage	China	21,100
August/September	Hurricane Gustav	Caribbean, USA	10,000
Costliest catastrophes (insured losses)			US\$m
September	Hurricane Ike	Caribbean, USA	15,000
August/September	Hurricane Gustav	Caribbean, USA	5,000
January/February	Winter damage	China	1,600
March	Winter storm Emma	Europe	1,500

Source: 2009 Münchener Rückversicherungs-Gesellschaft, Geo Risk Research, NatCatSERVICE. As of January 2009

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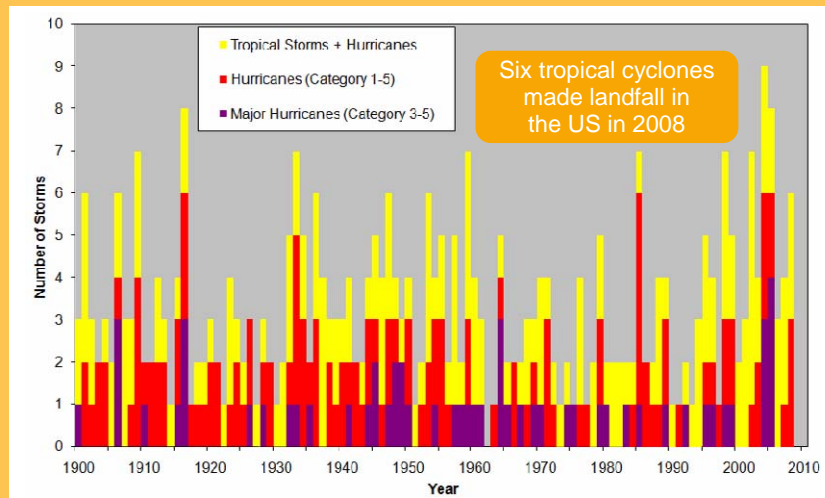
US Insured Catastrophe Losses*

US\$ billions

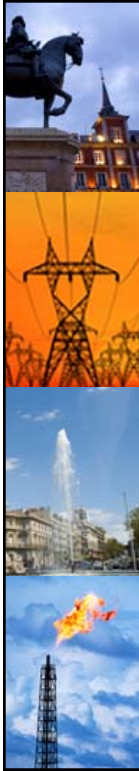


*Excludes \$4B-\$6b offshore energy losses from Hurricanes Katrina & Rita.
 **Based on PCS data through Dec. 31. PCS \$2.1B loss of for Gustav. \$10.655B for Ike of 12/05/08.
 Note: 2001 figure includes \$20.3B for 9/11 losses reported through 12/31/01. Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = \$12.2B.
 Source: Property Claims Service/ISO; Insurance Information Institute

Rising Number of US Landfalling Tropical Cyclones Has Been Very Costly for Energy Insurers



Source: Munich Re from NOAA



Aftershock: Regulatory Response to Crisis Could Be Harsh

All financial segments including insurers will be impacted



Post-crunch: Fundamental Issues to be Examined Globally

- **Failure of risk management, control and supervision at financial institutions worldwide: global impact**
 - Colossal failure of risk management (and regulation)
 - Counterparty risk and collateral management were systemic failure points
 - Non-Depository Financial Institutions in for major regulation
 - Implications for Enterprise Risk Management (ERM)?
 - Misalignment of management financial incentives
- **Focus will be on risk controls: implies more stringent capital and liquidity requirements; *prevention of systemic risks***
 - Data reporting requirements also likely to be expanded
 - Changes likely under US and European regulatory regimes
 - Will new regulations be globally consistent?
 - Can overreactions be avoided?



Post-crunch: Fundamental Issues to be Examined Globally (cont.)

- **Accounting Rule Changes??**
 - Problems arose under FAS, IAS
 - Asset Valuation, including Mark-to-Market
 - Structured Finance & Complex Derivatives
- **Ratings on Financial Instruments**
 - New approaches to reflect type of asset, nature of risk

Source: Ins. Info. Inst.

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Thank You
for your time and your attention!

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