



A company of **Allianz** 

Insurance Megatrends for the Decade Ahead

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Information Institute

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INSURANCE | ASSET MANAGEMENT | BANKING

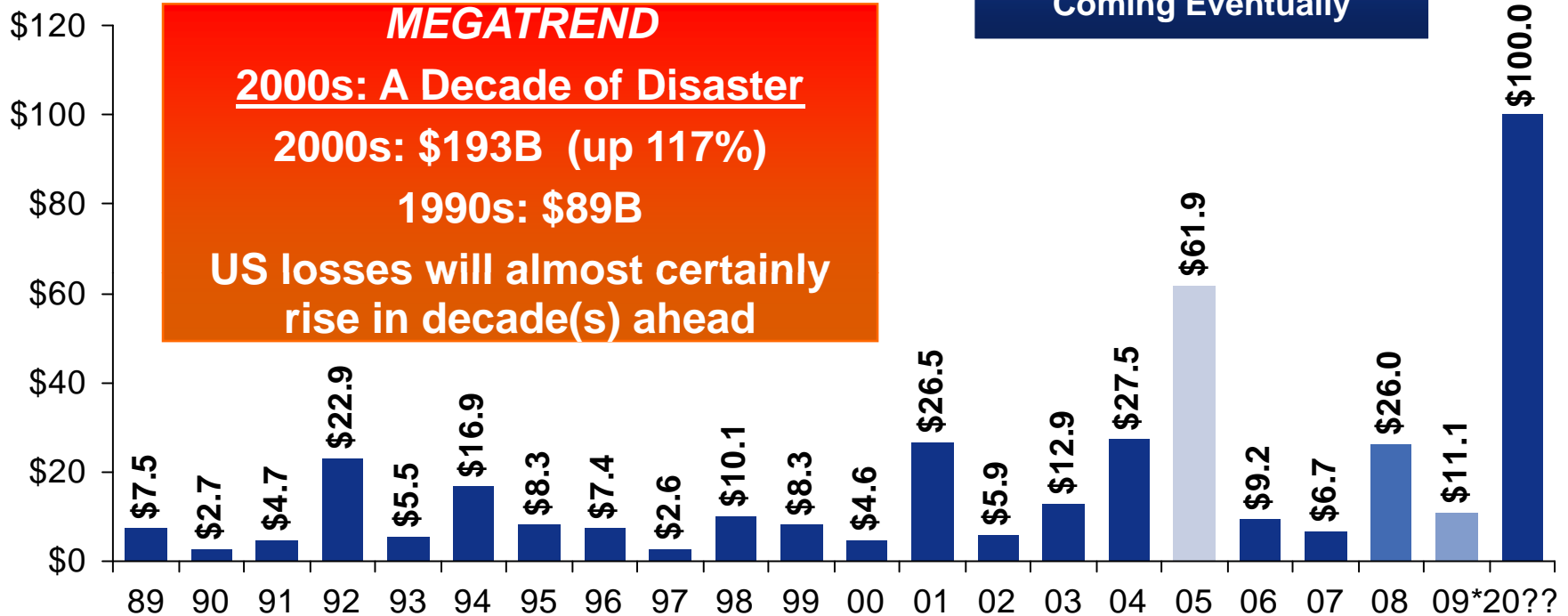




Catastrophic Loss – Catastrophe Losses Will Trend Adversely in the 2010s

US Insured Catastrophe Losses

(\$ Billions)



MEGATREND
2000s: A Decade of Disaster
 2000s: \$193B (up 117%)
 1990s: \$89B
 US losses will almost certainly
 rise in decade(s) ahead

**\$100 Billion CAT Year is
Coming Eventually**

**Losses in the Decade of the 2000s Were More than Double the 1990s,
But the Worst Has Yet to Come**

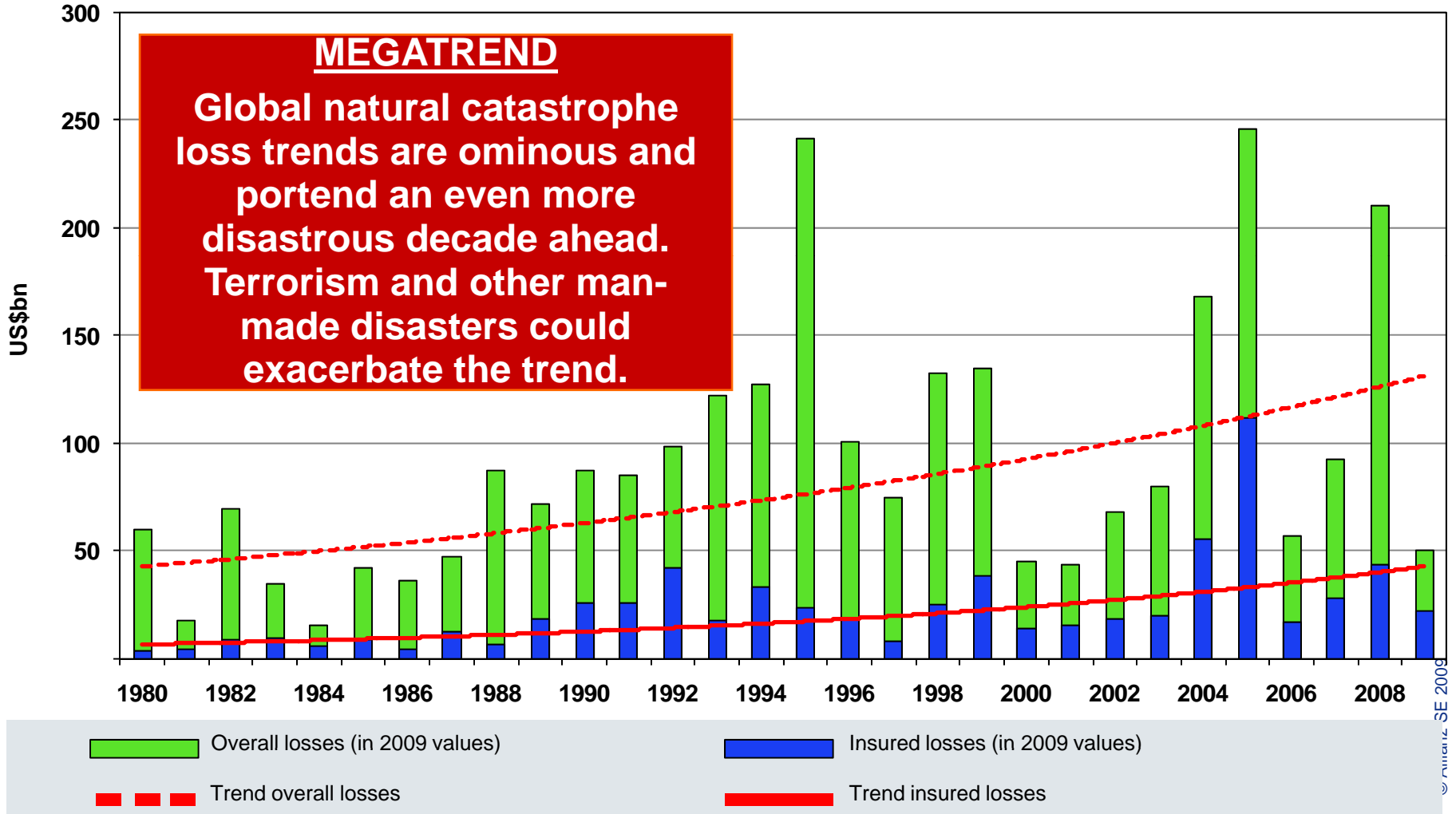
* 2009 figure is Munich Re estimate.

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.

Sources: Property Claims Service/ISO; Insurance Information Institute.

Global Natural Catastrophes 1980–2009

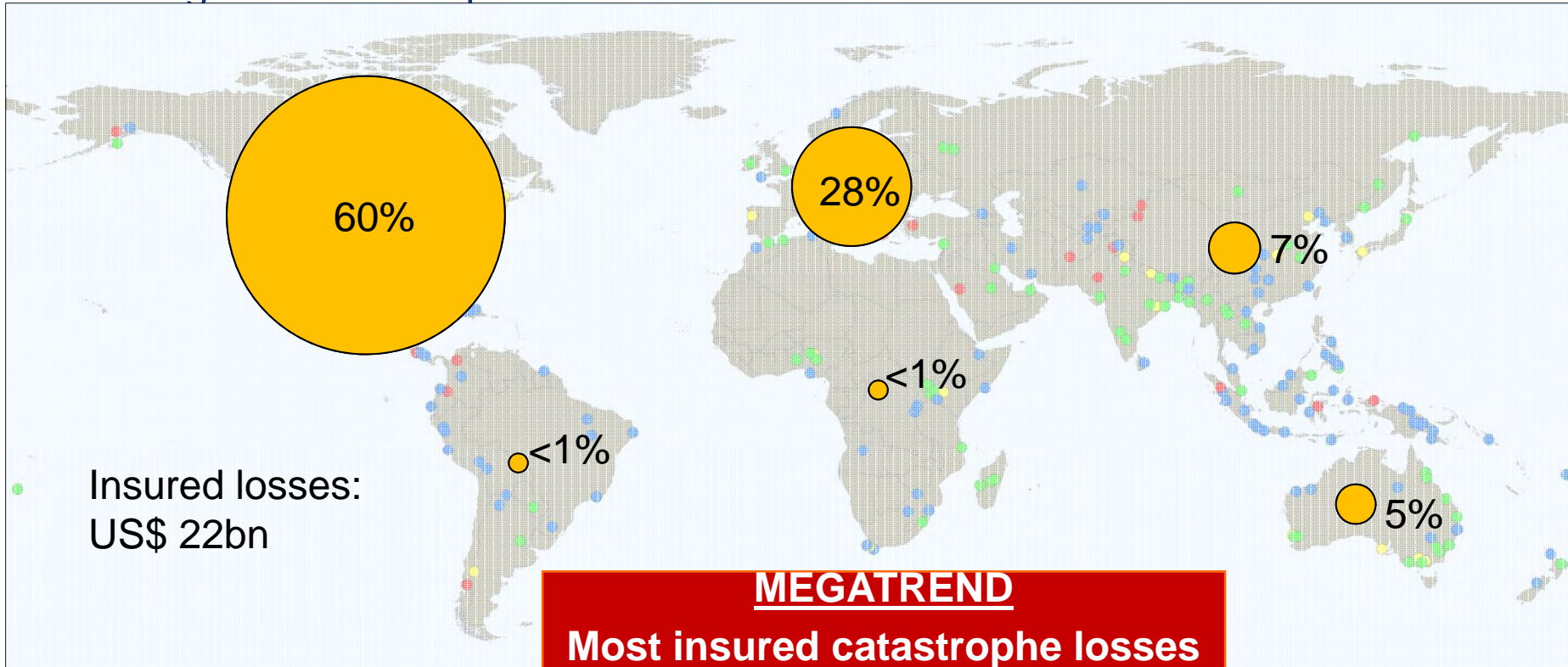
Overall and insured losses with trend



© Allianz SE 2009

Global natural catastrophes 2009

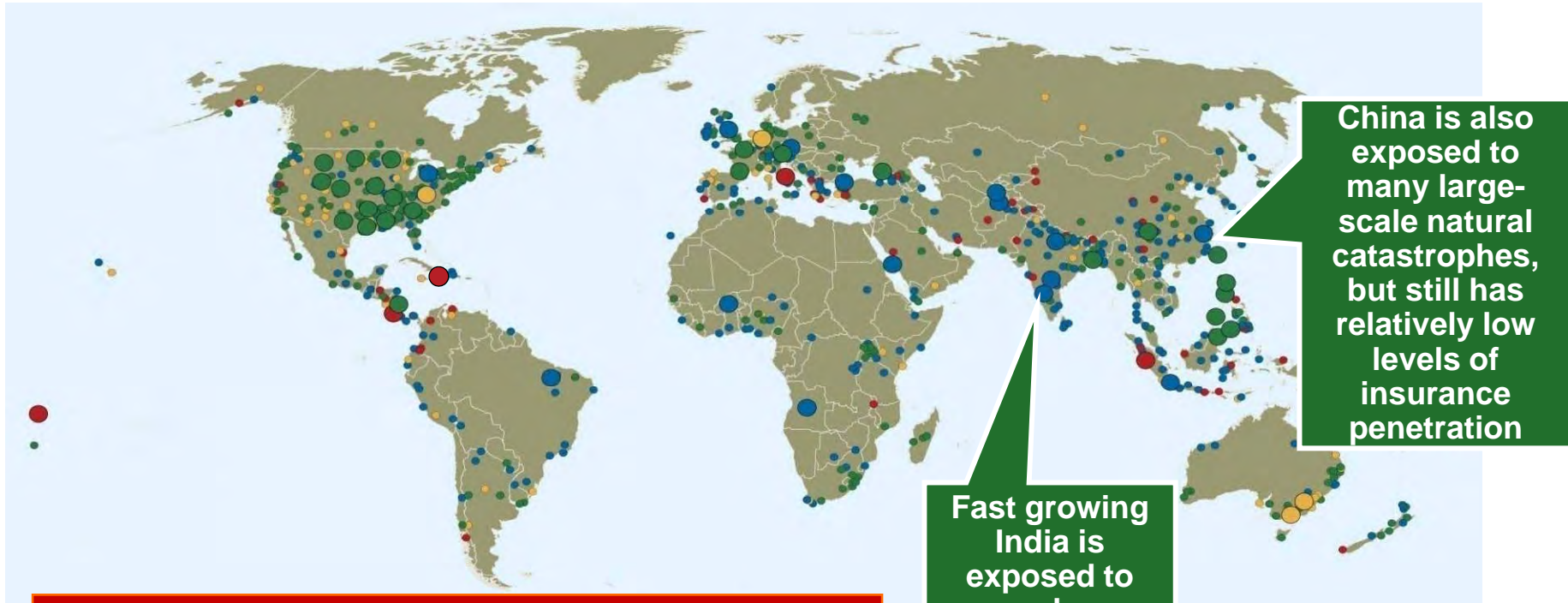
Percentage distribution per continent



MEGATREND
Most insured catastrophe losses will remain concentrated in the US and Europe in the decade ahead but other regions will begin to catch up

Natural catastrophes 2009-2010

Worldmap

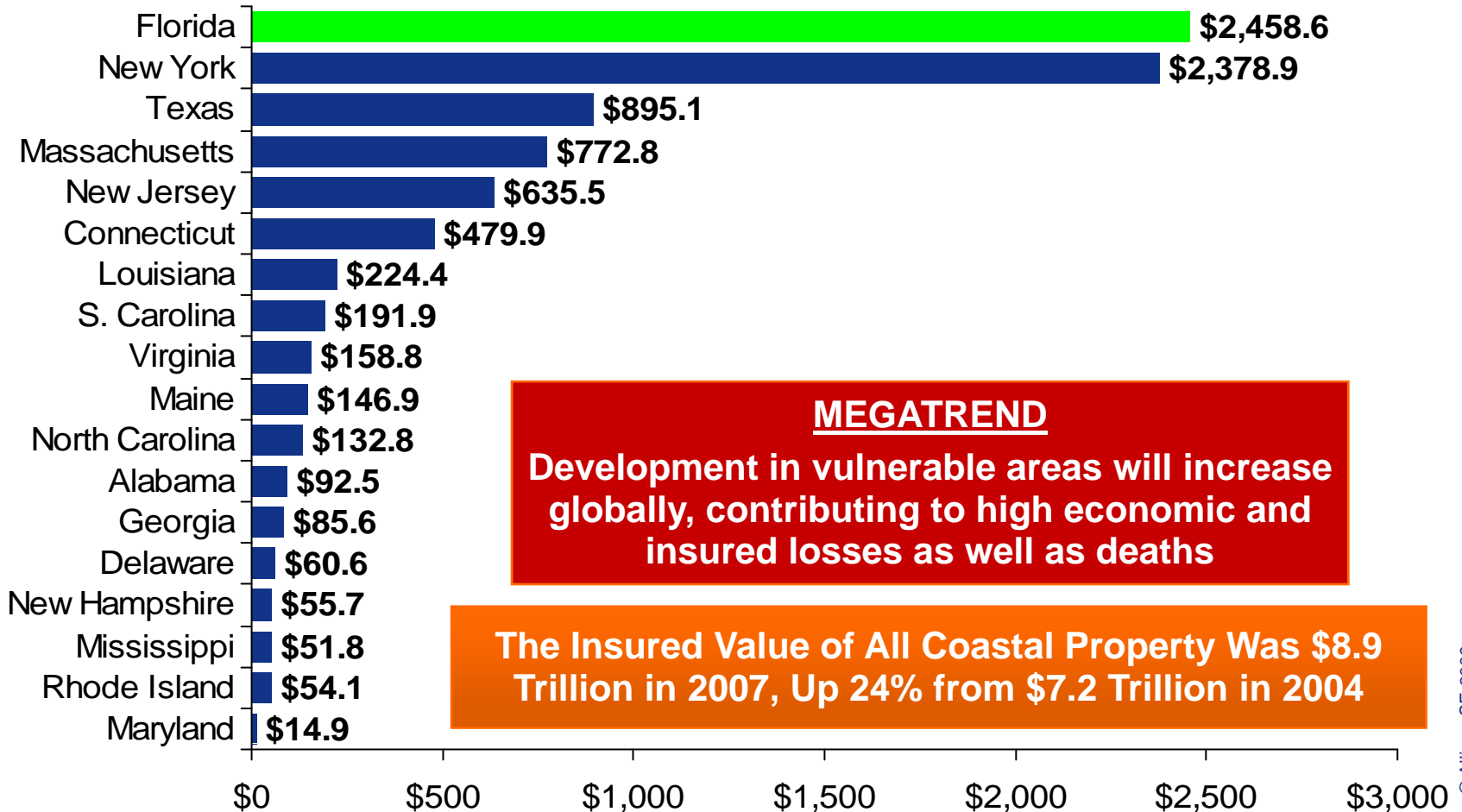


MEGATREND

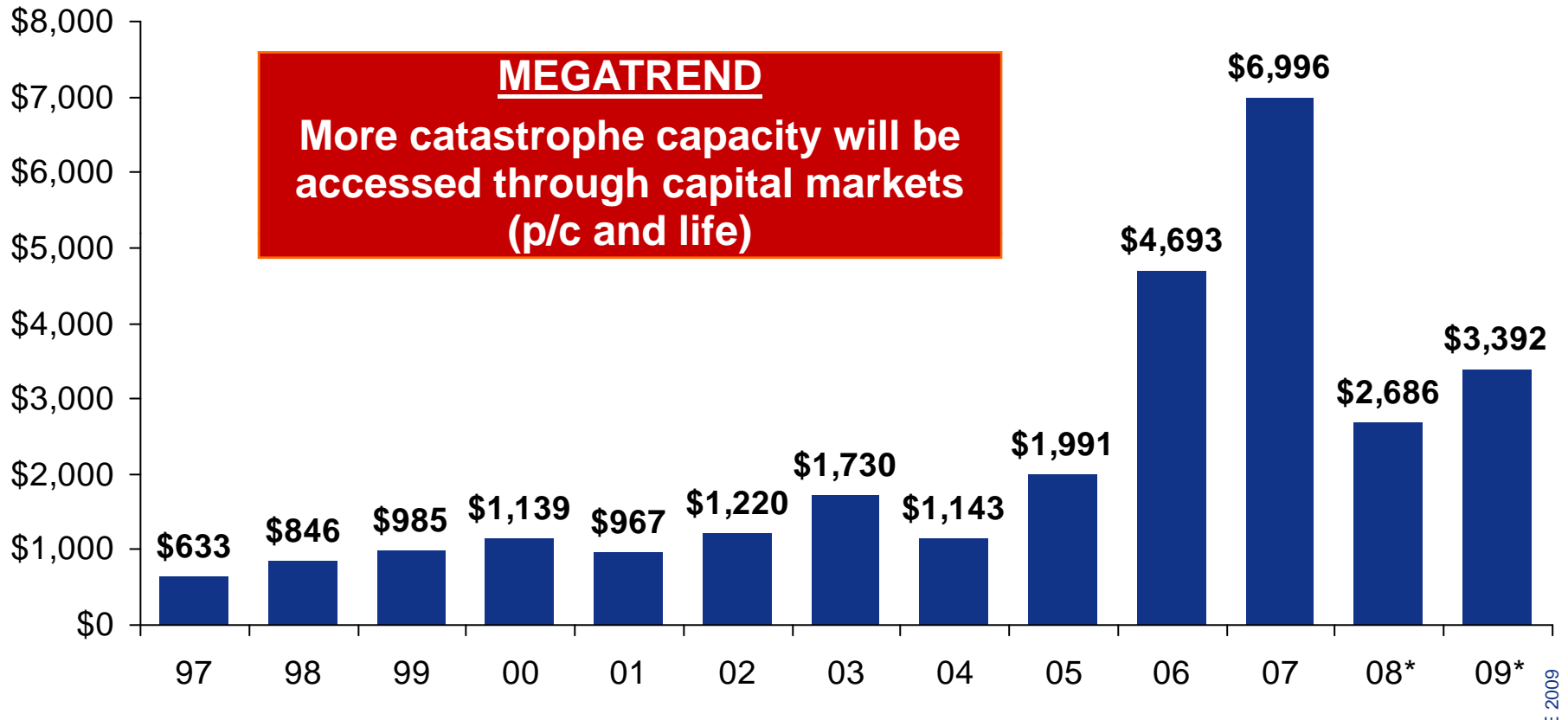
An increasing share of insured catastrophe losses will come from the developing world, especially China, India

Total Value of Insured Coastal Exposure

(2007, \$ Billions)



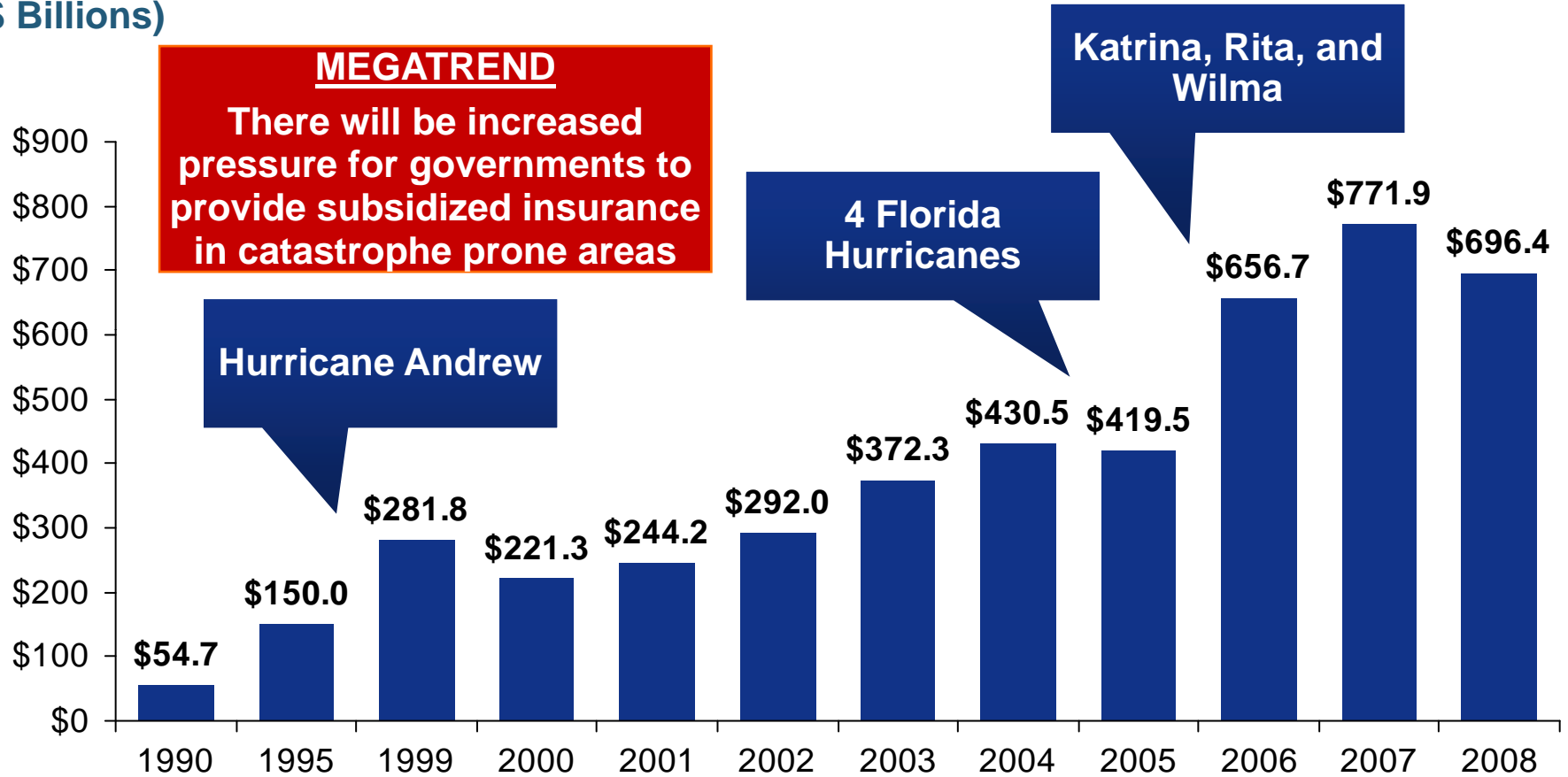
Catastrophe Bonds: Risk Capital Issuance (\$ Millions)



Catastrophe bond risk capital issuance plunged by 62% when credit market turmoil spread in 2008 but was up 26% in 2009 as markets improved

US Residual Market Exposure to Loss

(\$ Billions)



In the 19-year Period Between 1990 and 2008, Total Exposure to Loss in the Residual Market (FAIR & Beach/Windstorm) Plans Has Surged from \$54.7B in 1990 to \$696.4B in 2008

Catastrophe Losses

Big picture: Insurers face both insured and capital market CATs

Risks	Response / Opportunity
<p>Insured CATs</p> <ul style="list-style-type: none"> ▪ Nat cat – wind, hail, earthquake, flood, fire ▪ Man-made – terrorism ▪ Life – pandemic 	<p>Insured CATs</p> <ul style="list-style-type: none"> ▪ Reinsurance optimization (retention, pooling) ▪ Alternative risk transfer ▪ Underwriting / Product Innovation / Limits & Deductibles ▪ Risk Management <ul style="list-style-type: none"> - Know and understand risk (geo-coding, modeling) - Mitigation (risk advice, land use, planning, building codes)
<p>Capital Market CATs</p> <ul style="list-style-type: none"> ▪ Equity crash 2000 “bursting of the dot-com bubble” ▪ Financial crisis 2008 / 2009 “bursting of the housing bubble” 	<p>Capital Market CATs</p> <ul style="list-style-type: none"> ▪ No loss-leading underwriting: CR < 100% ▪ De-risking portfolios <ul style="list-style-type: none"> - Low on equities - Increased hedging - Intelligent diversification

Catastrophe Losses – Example

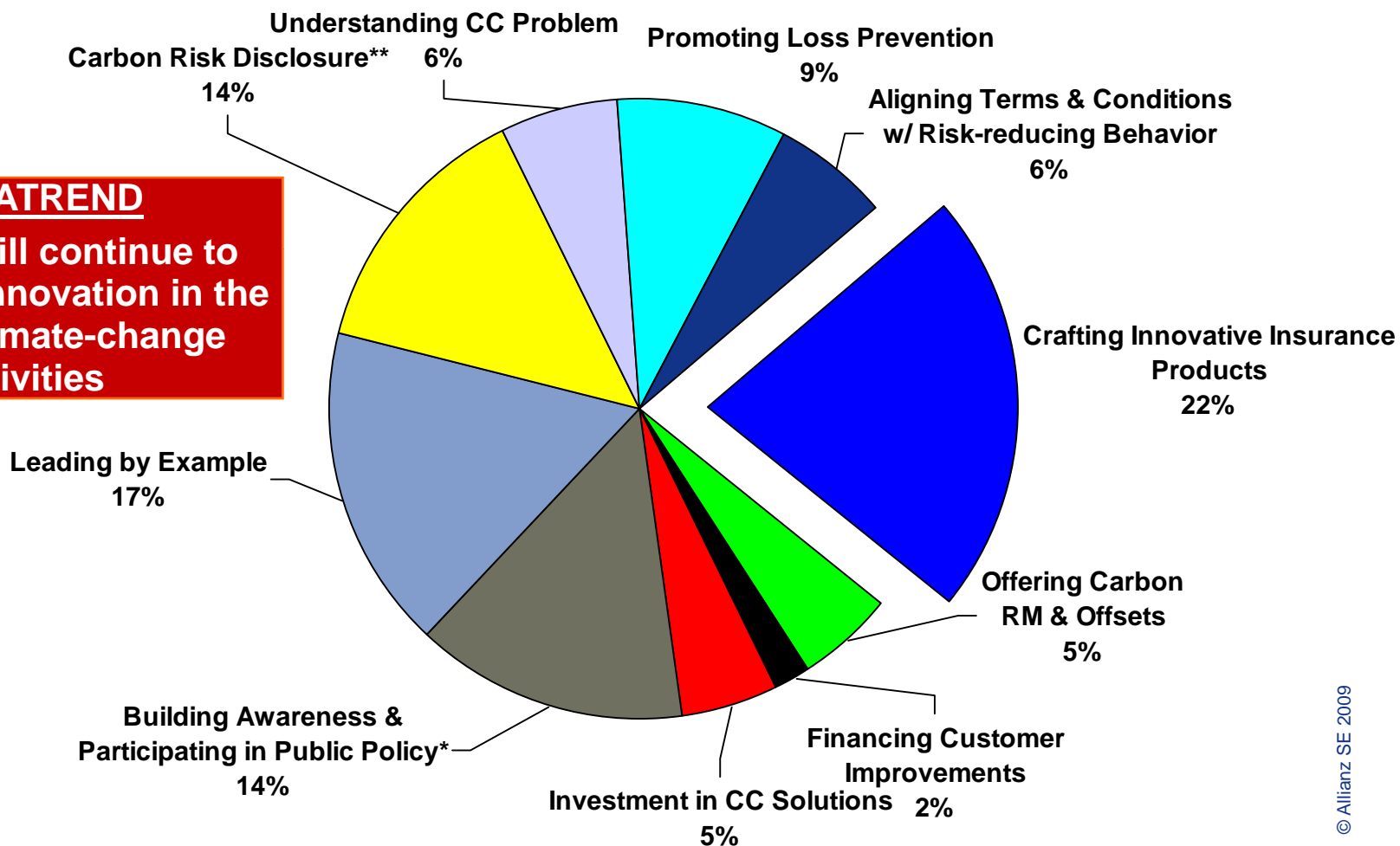
CAT Bonds: “The atomization of risk via the capital market”

Experience of Allianz in the 2000s	Potential Trends for the 2010s
<ul style="list-style-type: none"> ▪ Sponsored four cat bonds between 2007 and 2009 (Blue Coast, Blue Fin 1, Blue Fin 2, Blue Wings) ▪ Focus on significant nat cat exposures, such as <ul style="list-style-type: none"> - European windstorm - US hurricane and earthquake ▪ Key experience / learnings <ul style="list-style-type: none"> - Cat bonds complement traditional reinsurance and provide access to new capacity providers - Collateralization with high-quality assets allows sponsors to manage counterparty credit risk 	<ul style="list-style-type: none"> ▪ New cat bond issuances in 2010 are likely to exceed the volume of nearly \$3.5 billion in 2009 ▪ Innovative structural solutions reducing the collateral risk are expected to “consolidate” ▪ Cat bond segment will continue to attract investors given the recent performance of this asset class and low correlation to other market segments
<h2>Risk Management</h2>	
<p>Potential Trends for the 2010s</p> <ul style="list-style-type: none"> ▪ Know your risks better ▪ Understand your risks better ▪ Manage your risks better ▪ Partner with government for mitigation 	

Climate Change:
**Insurers Must Play Offense and
Defense in the Decade Ahead**

Prevalence of Insurer Climate-Related Activities: 2008

MEGATREND
Insurers will continue to accelerate innovation in the area of climate-change activities



*A maximum of 1 is tallied, as there is too much subjectivity in assigning weights to each individual activity

**Multi-year responses to a given disclosure initiative are counted once.

“Green” Insurance: Key Innovations and Trends

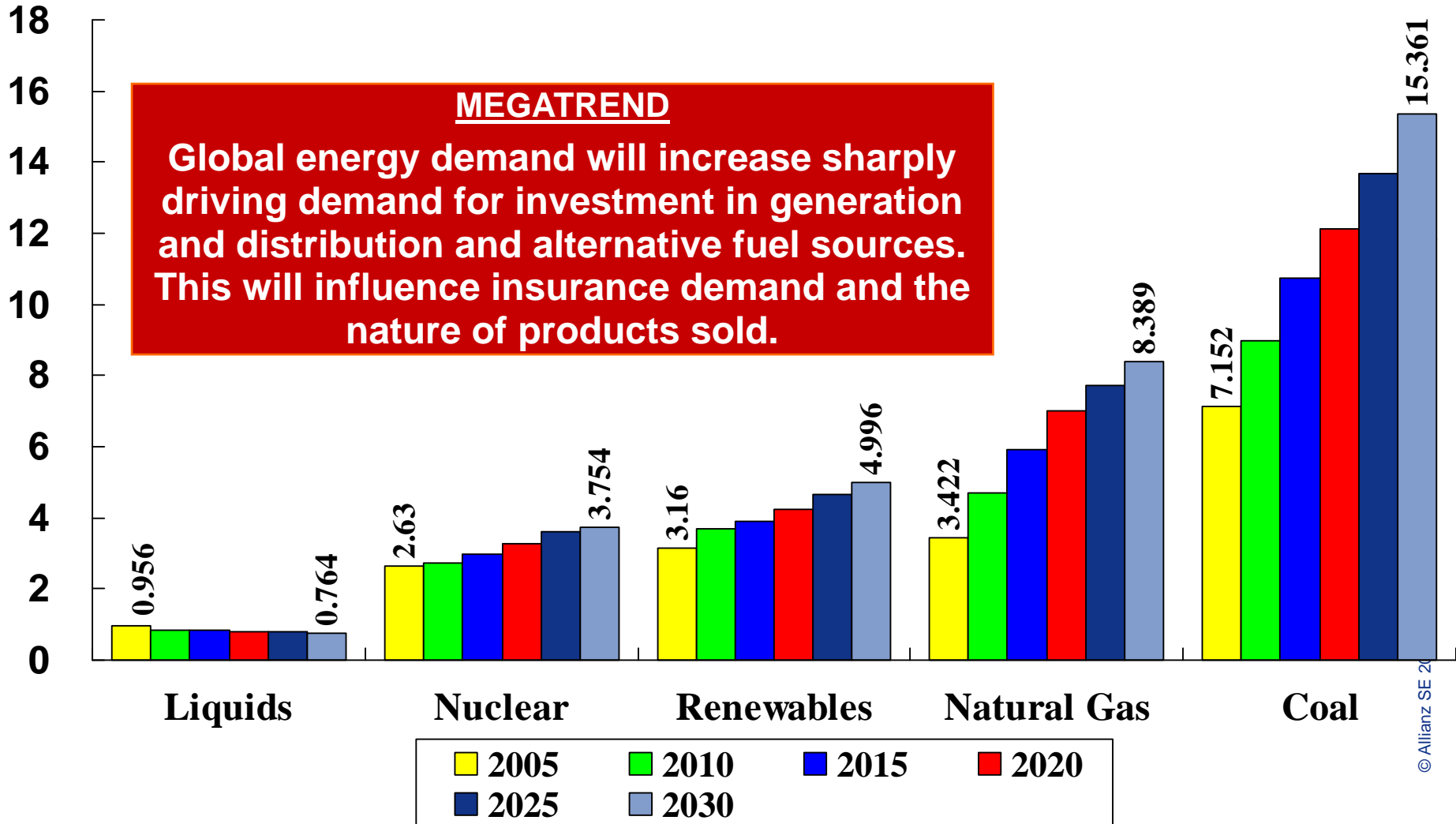
- Many more insurers offering “green-buildings” products and services
- Almost all climate-related innovations in D&O, political risk, professional liability and environmental liability have appeared in past year
- Auto and Transport: two dozen insurers now offer pay-as-you-drive (PAYD) insurance with discounts up to 60% for policyholders who drive less than avg. driver
- **2008 First:** insurance products to manage risks from carbon capture and storage (CCS) projects
- More attn. on renewable energy as a market for insurance
- Climate-related microinsurance – coverage for low-income populations w/out access to traditional insurance – about 7 million policyholders

MEGATREND

More holistic approach to climate change and insurance implies solutions that address property and liability risks in an area of rapid technological, political and legal change

World Electricity Generation by Fuel:
2005-2030F

Trillions of Kilowatt Hours



Megatrend Climate change has two faces

Severe threats ...

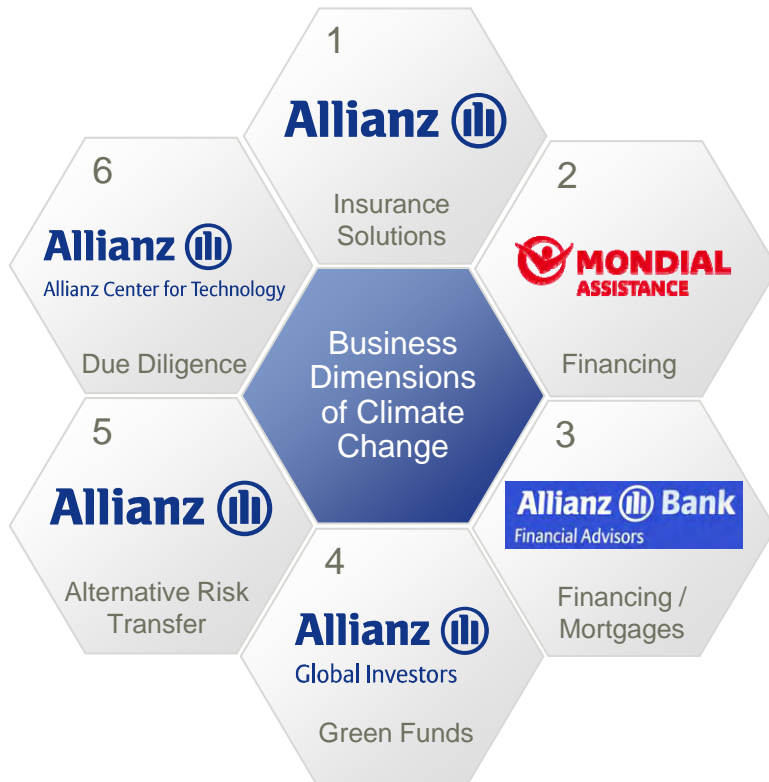
- Weather condition become more extreme
- Claims frequency & severity increase simultaneously
- ~40% of Allianz claims weather or climate related
- Affordability for customers threatened
- Limited possibilities for alternative risk transfer
- Growing number of uninsurable risks

... multiple opportunities

- Regulatory catalysts
e.g. American Clean Energy & Security Act (estimated investment volume USD 90bn)
- New investment classes
e.g. Renewable Energy Investments (Solar, Wind power) e.g. CatBonds
- New insurance business
e.g. Carbon Credit Insurance
- New business opportunities
e.g. Green building



We care about climate change ...



- 1 Insurance products
- 2 Financing activities
- 3 Project financing, equity & debt placement, IPO and asset acquisition
- 4 Funds in clean energy market
- 5 Acquisition of renewable energy assets and investment opportunities
- 6 Due diligence for business and technical issues, technical advice

▶ Cross-selling supported by full product range

Example: Green homeowner insurance by Allianz

United States

Green Homeowners and Green Upgrade

The first-ever admitted green homeowners insurance offered in the United States.

Fireman's Fund offers coverage to policyholders with green homes or those who want to upgrade their residences with green features after a loss.



United States

Green-Gard

Whether customers have built green buildings, made green renovations to existing buildings or want to rebuild green in the event of a loss, Fireman's Fund provides solutions to protect both financial and environmental investments. With Green-Gard, Fireman's Fund will pay the cost to rebuild as a green certified building in an event of a total loss.



Australia

Green for Old standard for Home and Contents

Green for Old Contents: In the event of a loss, low efficiency "white goods" are replaced with higher efficiency models.

- Green for Old Home: In the event of a total loss, an additional A\$ 5,000 of cover is available for no extra premium that can be used for environmentally sustainable upgrades (e.g. solar hot water, photovoltaic panels, rainwater tanks...)



Italy

"Green" Homeowners

Reduced insurance premiums are offered for customers that insure their "green" houses.

Environmental Reward Insurance

Corporate customers who have introduced an environmental management system certified in accordance with ISO 14001 or validated by EMAS will receive a reduced premium on their insurance policy.

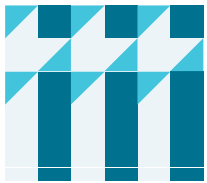


France

Green Home Insurance

Allianz France insures renewable energy equipment implemented inside the house or outside such as solar thermal, photovoltaic, geothermic, aerothermic components, wind mills and heat pumps. The liability insurance includes the sale of electricity to a French electricity provider.





Digitalization:
**Reshaping the Global
Insurance Industry**

Digitalization: A Positive Force in Insurance

Insurers

The technological revolution of the past decade has greatly increased the ability of insurers to collect and analyze information. This will continue. Insurers can underwrite risks faster and more accurately.

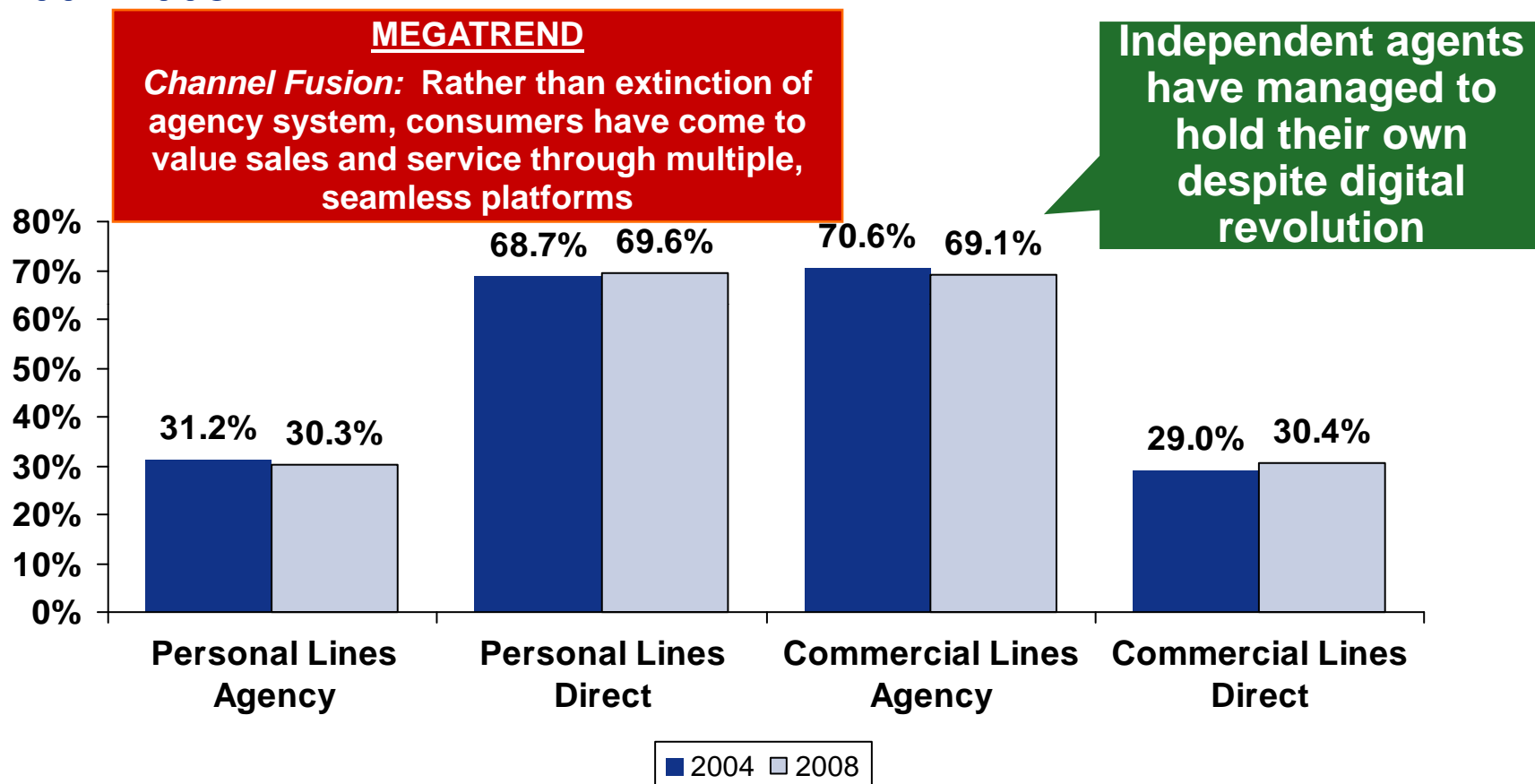
- Ability to collect, store and analyze data will continue to rise exponentially.
- This means that insurer sophistication in discerning and pricing risk will continue to increase.
- Extremely important in an era of rapid technological
- Insurers are engaged in a **“technological arms race”** to gain underwriting advantage

Consumers

Technology has empowered insurance consumers as never before; Increasing options and lowering prices, on average. This trend will continue in the 2010s.

- **Increased Options**
 - ◆ Technology has allowed consumers to shop and compare across a much broader array of insurers and products
- **Reduced Prices**
 - ◆ The average business and individual pays less for insurance relative to income or revenue than they did in 2000
- **Reduced Incidence of Risks that Cannot Be Underwritten**
 - ◆ The size of markets of last resort in the US have generally shrunk as underwriting sophistication has increased (except where regulation has interfered with innovation)

US Premiums Written by Distribution Channel and Segment: 2004-2008

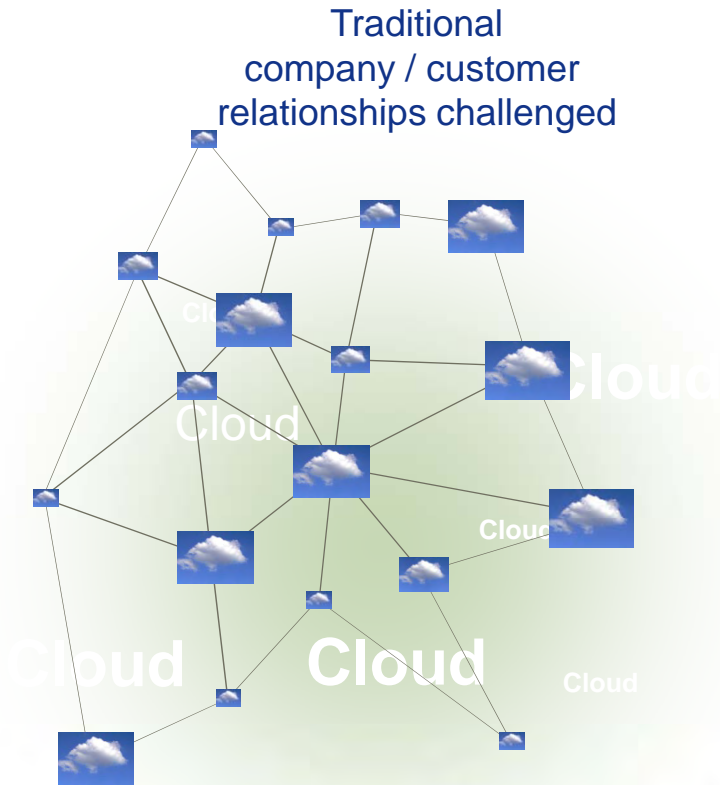


In 2000, independent agents (and agents of all types) were viewed as dinosaurs on the edge of extinction. A decade later, agents have shown that they can adapt and add value in the Internet Age.

Megatrend Digitalization

Digital revolution by 2019

- 40% of world's population will be online (up from 27% today)
- Internet will get a lot faster (Broadband: up to 10Gbits/sec; Mobile Internet close to 1Gbit/sec)
- Green cloud computing will become the next industrial revolution
- A set of automatic workflows will digitalize the relationship to each customer in real time
- "Home working" will be mainstream enabled by cloud computing
- "Telematics" and "Pay per use" will become the norm for the use of any service



Growing personalization with profound impact on insurers' value proposition

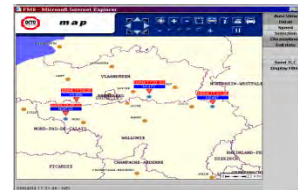
Next frontier: Telematics



Insurance pricing based on

- Km driven
- Type of road and time of day
- Driver behavior, etc.

Product design



Fleet manager able to

- Monitor driver position
- Optimize routes real-time
- Increase security of goods

Advanced services to fleet segment



Crash data used to

- Turn down false claims
- Define responsibility in case of accident

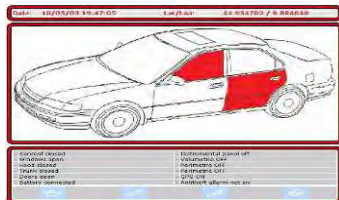
Claims management



Emergency Call

- Roadside Assistance
- Stolen vehicle tracking

Value-added Services



Remote diagnostics

- Early warning of faults
- Benchmarking (e.g. fuel usage)
- Advanced services to OEMs

Pro-active risk management

Telematics services

Innovative service range tailored for business development

Able to deliver any kind of customer service

Pay per Use insurance

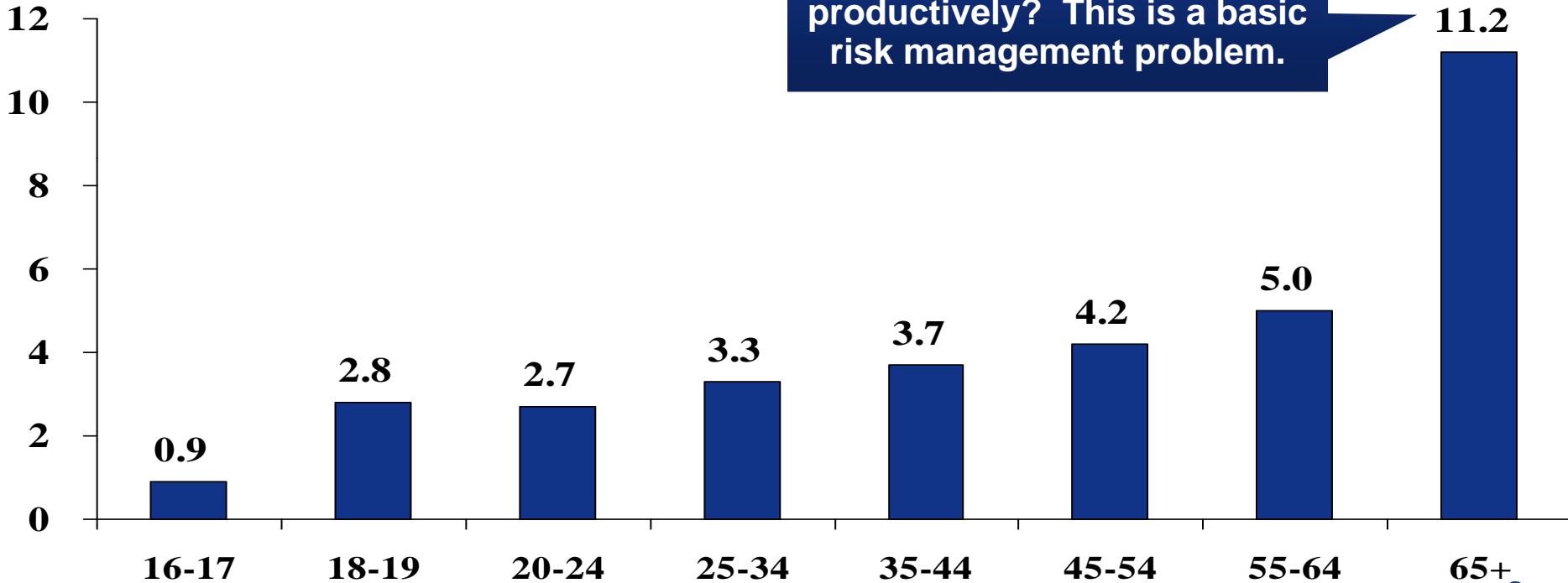
New segmented tariff addressing customer expectations

Already 10 Allianz OE's involved!

Demographics: Quantum Shifts in Risk, Wealth

Fatal Work Injury Rates Climb Sharply With Age

**Fatal Work Injuries
per 100,000
Workers (2006)**



Can older workers be employed safely and productively? This is a basic risk management problem.

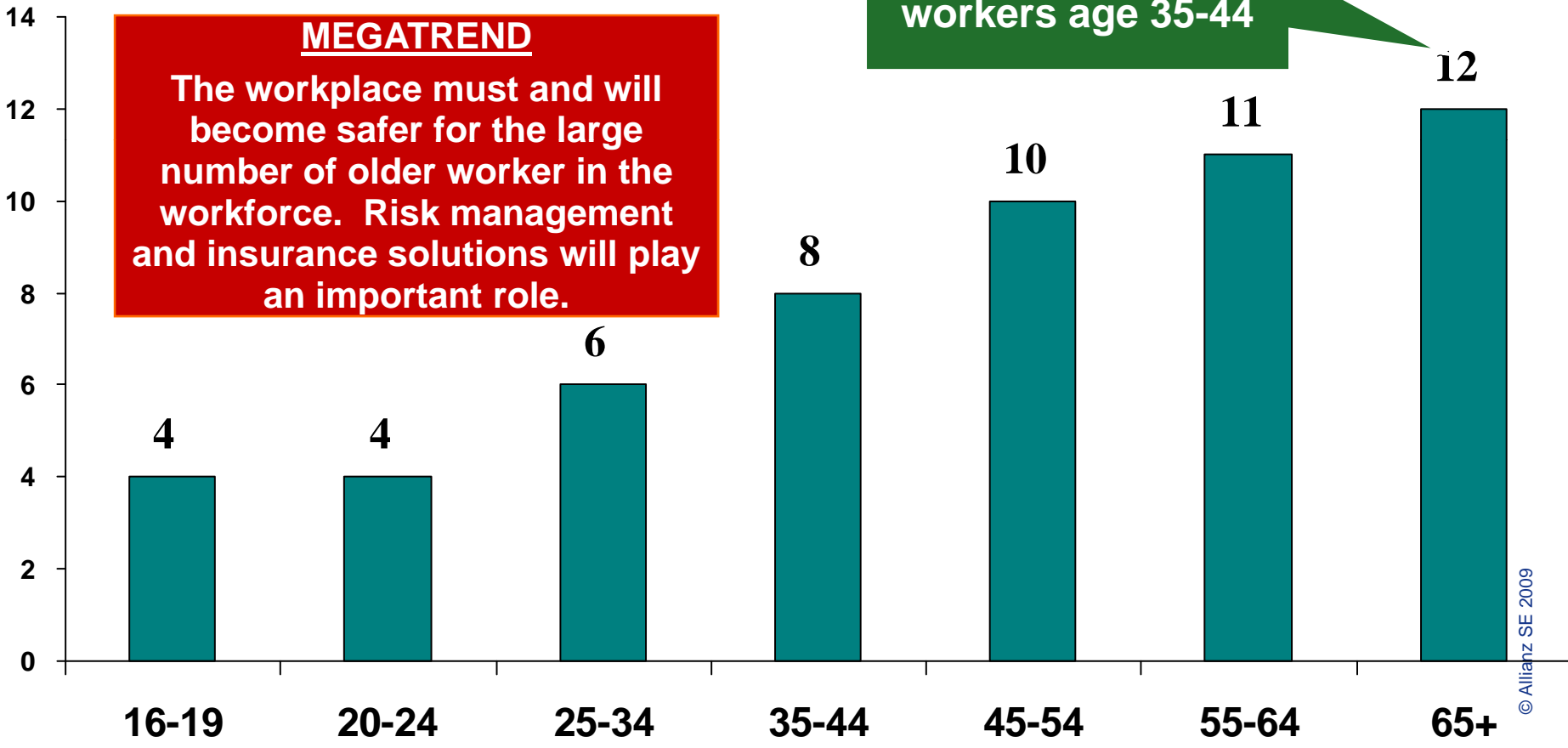
The fatality rate for workers 65 and older is triple that of workers age 35-44. The workplace of the future will have to be completely redesigned to accommodate the surge in older workers. The “Great Recession” will increase the proportion of older workers beyond all pre-crisis estimates.

Older Workers Have More Lost Time from Work Due to Injury or Illness

Age 65+ workers median lost time is 50% greater than workers age 35-44

MEGATREND
The workplace must and will become safer for the large number of older worker in the workforce. Risk management and insurance solutions will play an important role.

Median Days Away From Work (2005)



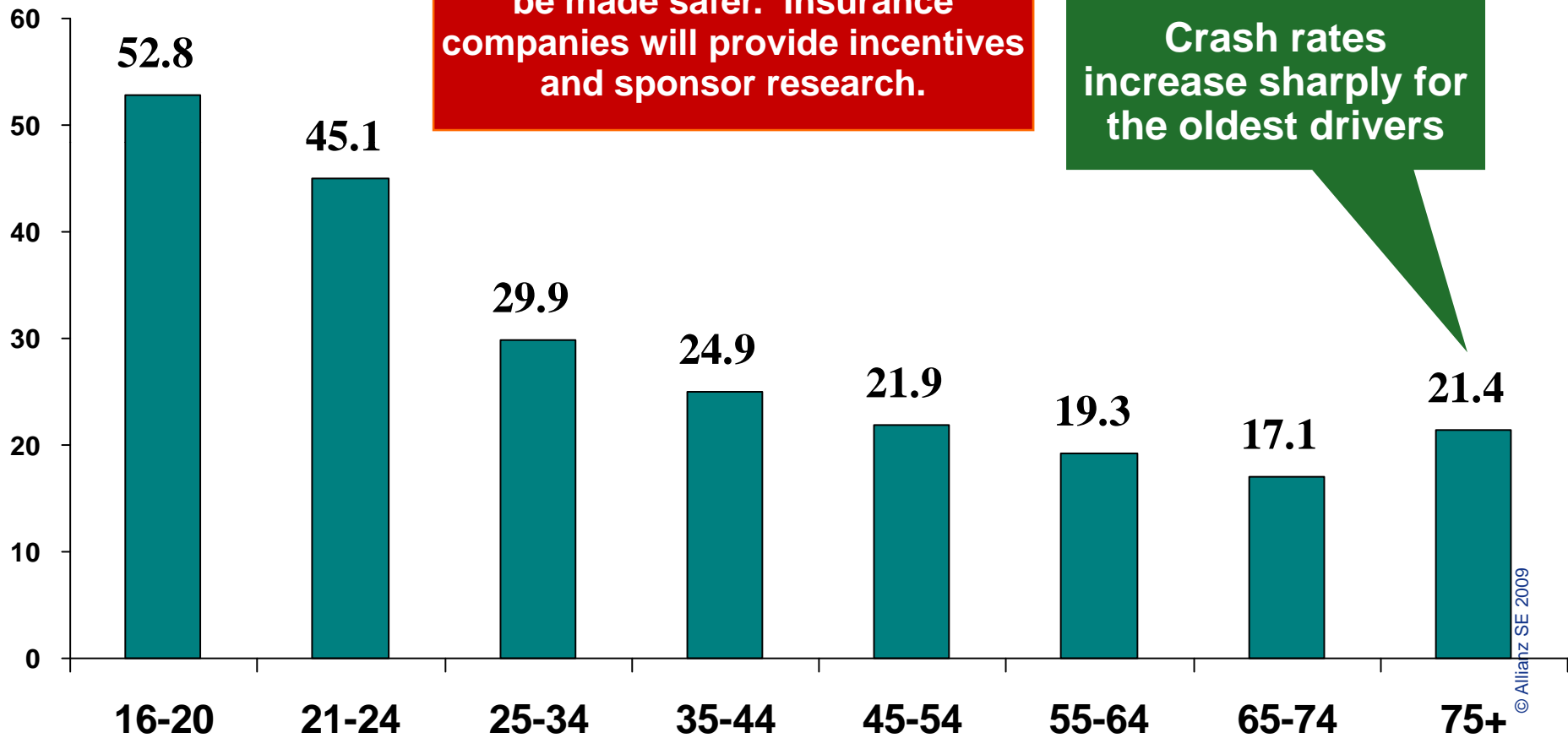
© Allianz SE 2009

Older Drivers Face Many Challenges on the Road: So Do Their Insurers

Crashed per 100,000 Miles Driven

MEGATREND
Highways and motor vehicles will be made safer. Insurance companies will provide incentives and sponsor research.

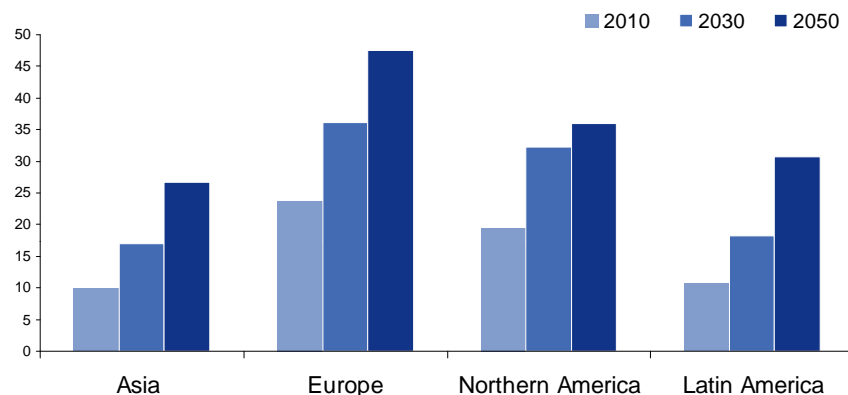
Crash rates increase sharply for the oldest drivers



© Allianz SE 2009

Demographic effects amplified by financial market performance

Old-age dependency ratios¹, 2010 - 2050 (in %)

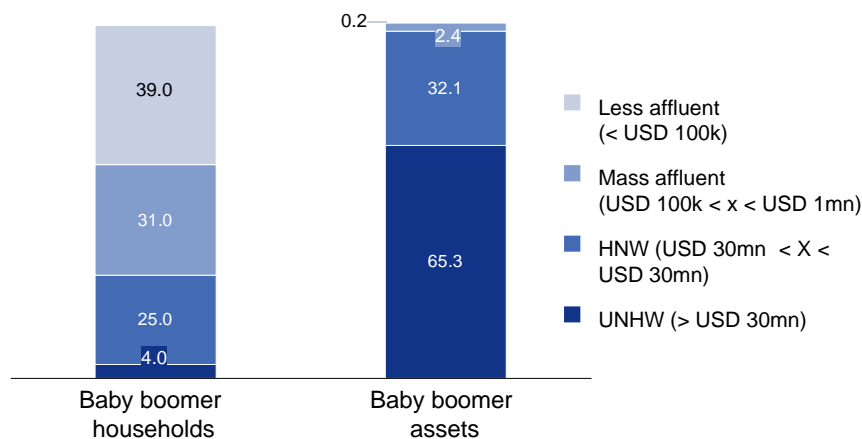


- Global phenomenon
- Rapidly aging societies
- Longevity possibly rising
- Increasing share of population no longer self-caring

Allianz benefitting via

- Global presence
- Strong distribution
- Attractive product range (Life; Asset; Assistance)

US: Wealth distribution of baby boomer generation (in %)



- Demographic change impacts asset allocation (e.g. 78m baby boomers retiring with USD 19trn assets)
- Growing need for risk transfer (e.g. longevity)
- Increasing demand for decumulation solutions
- Financial market shocks impact retirement strategy

Implication for Allianz

- Further product innovation
- Move from product to solution provider
- Strengthen distribution

Source: Survey of Consumer Finances 2007, 2009; Allianz Global Investors calculations

Assistance: Ageing customers look for solutions not just products

Mondial Assistance



- Allianz Group¹ is the world's largest provider of assistance services
- Transformation of insurance payment into customer solution
- Bundled products with superior growth potential
- Example of assistance services
 1. Roadside assistance
 2. Daily healthcare assistance
 3. Tele-assistance
 4. Short term services (property; child care etc.)
 5. Reinsertion services for accident victims

1) Mondial Assistance is 100% owned by Allianz

Insurance Information Institute

www.iii.org

Fireman's Fund and Allianz SE

www.firemansfund.com

www.allianz.com

*Thank you for your time
and your attention!*

Appendix

Megatrends remain intact in the “new normal”

New normal

Lower growth

Higher risk aversion

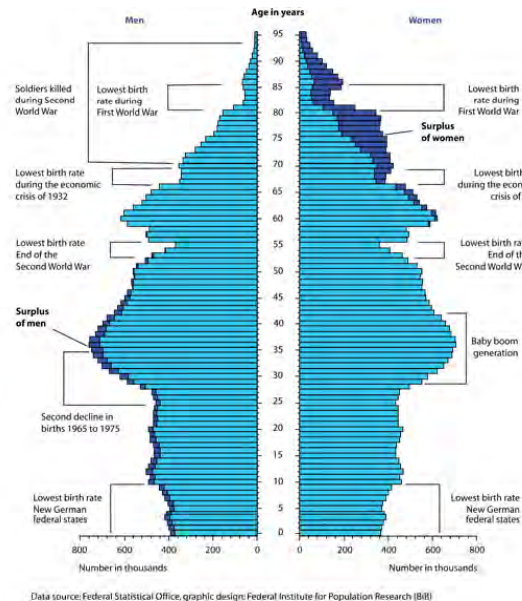
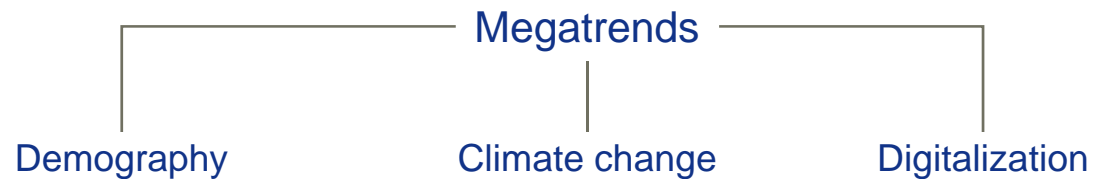
More regulation

Higher capital requirements

Lower recurring investment yield

Inflation / deflation (?)

Higher accounting volatility



Catastrophe Management

Reinsurance optimization and beyond

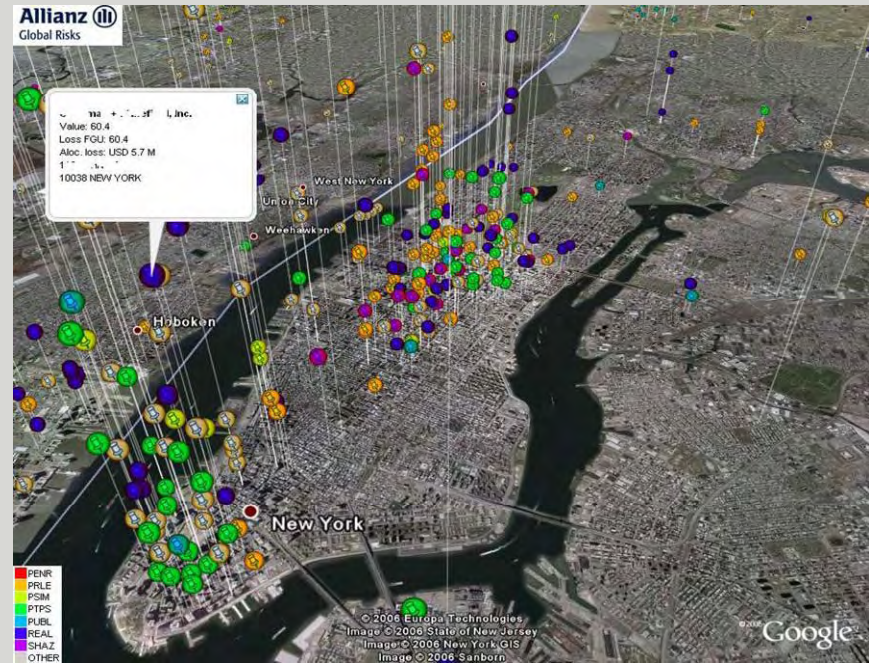
Cover	Characteristics	Current protection landscape
Mega Cat	<ul style="list-style-type: none"> Western Europe, USA, Australia Protection against extreme Nat Cat events 	<p>External reinsurance Internal reinsurance</p> <p> ■ Mega Cat ■ Allianz Re ■ Super Cat ■ OE retention </p>
Super Cat	<ul style="list-style-type: none"> Western Europe, Australia Central placement of Nat Cat exposure Reduction of reinsurance costs for the Group 	
Super Cat America (as of May 2009)	<ul style="list-style-type: none"> USA, Canada, Mexico¹, Caribbean¹ Combined placement of FFIC and AGCS Nat Cat exposure Optimization of Group protection landscape 	
Super Cat New Europe	<ul style="list-style-type: none"> Central/Eastern European OEs Reduction of reinsurance costs for the Group 	
Non-traditional protections	<ul style="list-style-type: none"> Enhancement of overall protection landscape <ul style="list-style-type: none"> - Cat bonds - Swaps - RepliCat covers 	

1) Hurricane/Windstorm only

Catastrophe Management

Know your risks better

- Data, data, data...
- Location of risks is crucial regarding accumulation control and risk analysis of hazard prone-areas
- Implement and use GIS based software to visualize your exposure landscape

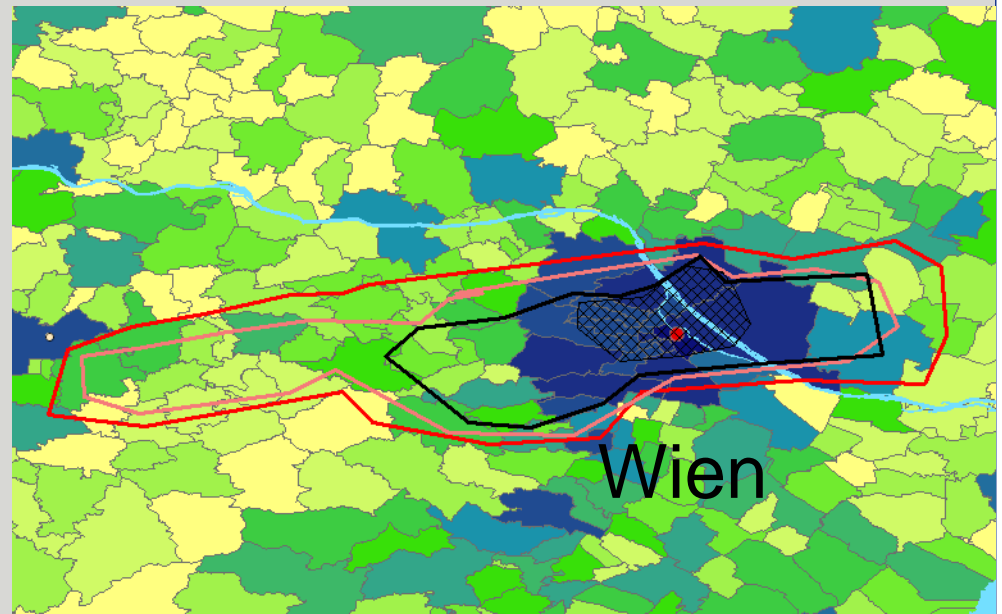


Google Earth software helps underwriters to better localize their exposure in high-risk areas (here: New York City)

Catastrophe management

Understand your risks better

- Be up-to-date to ongoing climate change discussion, invite scientific community to risk discussion
- Anticipate changed hazard inducing activities in terms of frequency and severity (e.g. El Nino / La Nina)
- Particularly improve high frequency end of vendor based modeling (if necessary) and integrate into underwriting / pricing process



Catastrophe management

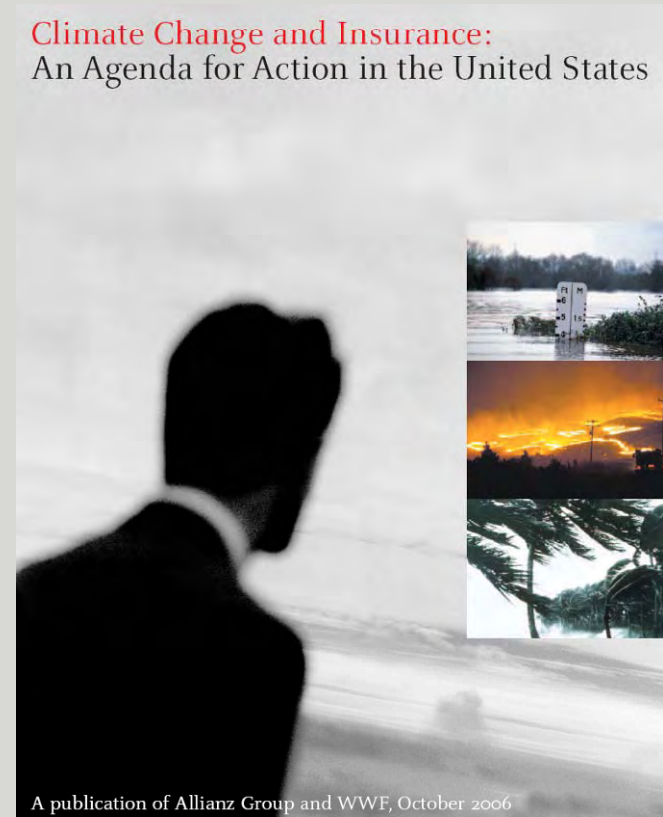
Manage your risks better

- Catastrophe risk markets are often **underinsured** – therefore diversification / risk spreading is by far not ideal
 - Product innovation / development
 - Pricing aspects
- Increase of **occurrence - driven cycles** increases volatility of net position of insurers
 - Strong reinsurance partnerships generate higher transparency of risks and allow for long term planning
 - Potential of capital markets
- Reduce your catastrophe risks by implementing risk adequate limits and deductibles

Catastrophe management

Partnership with governments

- Natural catastrophes require actions by governments
 - Land planning considering protection against flood
 - Improved building codes to reduce storm damage
 - Reduced building activity in flood plains to control damages
- However, government being in the role of a primary insurer is not unproblematic (see National Flood Insurance Program in the US)
 - Generates non risk adequate pricing and consequently risk-affine behavior



Climate Change: U.S. Products



United States

Climate Change Challenges

The US hosts a wide range of climatic regions within its borders: from glaciers in Alaska to the tropical marshland of the Everglades in South of Florida which will be impacted by climate change in various ways. With its high level of industrialization and energy consumption, reducing the individual CO2 footprint is the most effective way to locally address climate change in the US.

Fireman's Fund Insurance Company offers various solutions with a focus on carbon reduction.



United States

Green Auto Hybrid Upgrade

Fireman's Fund offers a replacement coverage for vehicles of private customers – insuring the full replacement cost of autos that are stolen or damaged beyond repair. In addition the customer is able to upgrade to a hybrid if this is available.



United States

Green Commercial Auto

Fireman's Fund offers a replacement coverage for commercial vehicles – insuring the full replacement cost of autos that are stolen or damaged beyond repair. In addition the customer is able to upgrade to a hybrid if this is available.



United States

Sustainability is emerging as a critical business strategy for manufacturers. Companies benefit in many areas of a sustainable strategy which is measurable by their profitability. After a partial or total loss, Manufacturer's Green Upgrade coverage will pay the increased cost to replace damaged business property with green rated equipment, products and construction material.

United States

Green Homeowners and Green Upgrade

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Digitalization: Telematics services for retail customers

Differentiate and develop new revenue streams offering retail customers a rich set of cutting-edge safety, security and location based services

Safety		<ul style="list-style-type: none"> ▪ Emergency Call ▪ Smart Call (portable emergency call) ▪ Breakdown Call ▪ Safety alerts (speed, danger zone) 	Reduction of fatalities: 3-15% ¹
Security		<ul style="list-style-type: none"> ▪ Theft Notification ▪ Stolen vehicle tracking 	90% recovery of stolen vehicles ²
Driving assistance		<ul style="list-style-type: none"> ▪ Navigation ▪ Traffic info ▪ Travel guide ▪ Weather info ▪ Hotel, restaurant booking ▪ Speed/Camera Alert 	Navigation systems reduce claims frequency by 12% ³
Remote diagnostics		<ul style="list-style-type: none"> ▪ Early warning of faults ▪ Benchmarking 	Identifying minor problems before they become major repair bills
Customer web and mobile portals		<ul style="list-style-type: none"> ▪ Parental control ▪ Logbook ▪ Trip display on map ▪ Electronic services ▪ Dashboard and benchmarks 	Check your driving habits and the trips report

Line fitted technology

1. Source: "Pay-as-you-drive pricing and insurance regulatory objectives", T. Litman
2. Source: CESC-VIASAT, annual report 2001, Italy

3. Source: Independent research by Dutsch research institute TNO, February 2007