

# Bridging the Divide: Cities, Insurance, and Finance



# ICLEI Mission

Our mission is to build, serve and drive a movement of local governments to advance deep reductions in greenhouse gas emissions and achieve tangible improvements in local sustainability.



# Regional Adaptation Initiatives

## - Changing Climate, Changing Communities: For Municipal Climate Adaptation

- Guide & Workbook
- Adaptation Initiative

## - Adapting Urban Water Systems to Climate Change

- SWITCH – Managing Water  
for the City of the Future

## - AsianCitiesAdapt

## - Guide & Toolkit for Asian Cities (ACCCRN)

- AsianCitiesAdapt
- AdaptCap

## - Climate Resilient Communities Program

## - Preparing for Climate Change Guidebook

## - ADAPT online management tool

## - Participatory Vulnerability Assessment Survey Tool

## The Municipal Climate Action Plan (PACMUN) Program

## Sub-Saharan African Cities: 5 City Network for Adaptation Solutions

## - Sub Regional Node of APAN

- AsianCitiesAdapt
- ACCCRN

## - Local Government Climate Adaptation Toolkit

- PAKLIM Program
- Guide & Toolkit for Asian  
Cities (ACCCRN)



# The ICLEI Network

Global network of 1,000+ local governments leading on climate change

ICLEI USA – 400+ members, representing around 20% of U.S. population

## Increasing Focus on Resilience

### 2012

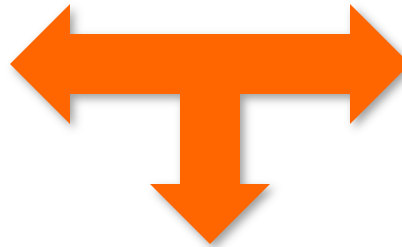
- *San Diego Bay Sea Level Rise Adaptation Strategy*
- *AdaptLA*
- *Earth Hour City Challenge trainings / tools*
- *City-Insurer Workshops*
- *Resilient Communities for America Agreement*



# Mobilizing business and investor leadership to build a thriving, sustainable global economy

## Investor Network

101 members currently representing more than \$12 trillion AUM



## The Ceres Coalition

More than 130 organizations including environmental experts, public interest groups, and investors.

## Company Network

More than 75 members in more than 20 sectors



Bloomberg



LEGG MASON  
GLOBAL ASSET MANAGEMENT



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# Significant 2012 U.S. Weather Events



## SNOW PACK

3rd smallest winter snow cover extent. Below-average snowpack was observed for much of the West.

## WARM

Warmest year on record for the nation. 19 states record warm. The 4th warmest winter, warmest spring, and second warmest summer contributed to 2012 having an average temperature 3.2F above average and 1.0F above the previous record warm year of 1998.

## WILDFIRES

Over 9.2 million acres burned nationwide during 2012. CO experienced its most costly fire on record in June. The Whitewater-Baldy fire was the largest on record for NM.

## COLD

Coldest January on record in AK. The monthly average temperature in Bettles was -35.6F. Snowiest winter in Anchorage with 134.5 inches.

## FLOOD

Storms caused record flooding in and around Duluth, MN on June 20th with over 8 inches of rainfall observed in 24 hours. Rivers in the area reached their highest levels on record.

## TORNADOES

An early season tornado outbreak on March 2-3 in IN, OH, WV, and KY resulted in 42 fatalities. This was the deadliest tornado outbreak of 2012.

## DROUGHT

The 2012 drought peaked in July with over 60% (PDSI) of the nation experiencing drought conditions, comparable to the drought episodes of the 1950s. Corn and soybean crops failed across a large portion of the Great Plains and Midwest. Water levels along the Mississippi approached record lows and slowed commercial shipping.

## STORMS

On March 9th a storm system brought severe weather to HI. A rare tornado hit Oahu. Largest hailstone on record for the state in Oahu.

## POST-TROPICAL CYCLONE SANDY

Made landfall near Atlantic City, NJ with sustained winds of 80 mph in late October. Record storm surge along NJ and NY coasts along with heavy rain and snow. Over 8 million people lost power, 131 fatalities.

## STORMS

A straight-line wind storm called a derecho caused significant damage from IN to MD. Over 250,000 customers lost power, including the densely populated Washington, D.C. area.

## HURRICANE ISAAC

Made landfall near the mouth of the Mississippi River in late August with winds of 80 mph. Significant storm surge and flooding rains along the Gulf Coast. 9 fatalities.

## WET

Florida had its wettest summer on record, partially due to Hurricane Isaac and Tropical Storm Debby. Seasonal precipitation was 140 percent of average.



# Uncertainty and Risk Management

Climate change is a classic problem of uncertainty:

- Emissions scenarios
- The effect of emissions on global climate
- Regional climate projections
- The effect of climate change on physical attributes like regional sea level
- The effect of climate change on extreme events
- Timing, severity, systems interactions

Risk management is the identification, analysis and treatment of uncertainty in decision-making

*Risk = probability x consequences*



# Risk Management Chain

Priority Business Risk in the City-Building Process	RISK MANAGEMENT COLLABORATORS								
	Local Government (GOV)	Infrastructure Providers (INFRA)	Utilities (UTIL)	Developers (DEV)	Financiers (FIN)	Owners (OWN)	Property Managers (PROP)	Tenants & Residents (TEN)	Insurers (INS)
<b>Construction and operating cost mis-estimation</b>  [Priority for Infrastructure Agency, Utility, Property Owner, Tenant]	✓	✓		✓	✓				✓
	<p>GOV engineers and inspectors ensure that required cost elements are including in development applications. INFRA, DEV, and FIN each retain independent cost consultants to evaluate project requirements and evaluate the business case for investment; UTIL professionals do internal cost estimations. INFRA and FIN use sophisticated multi-project scenario models to further stress test cost estimates. DEV hires cost control experts to manage costs to budget, and establishes predictable relationships and terms with input and labor suppliers to make costs predictable—for which reason they report that the risk is near fully mitigated. INS write policies for INFRA, UTIL, DEV, TEN, and FIN to assume and diversify risks of construction and operating cost overruns that would significantly hurt policy holders' financial positions.</p>								
<b>Development site risk</b>  [Priority for Commercial Property Developer]	✓	✓	✓	✓	✓	✓	✓		✓
	<p>GOV maintains and updates standards for site engineering, site-appropriate building options, access and egress etc. GOV, INFRA and UTIL do site specific assessments of requirements for servicing the site. DEV and OWN determine the optimal design and development for the site within the constraints of standards and requirements. FIN does independent site assessment and stress test analysis to evaluate DEV/OWN's conclusions. PROP monitors and manages ongoing site risks and procedures to cope with risk events. INS includes site-related coverage in policies for GOV, INFRA, UTIL, DEV and OWN, and provides risk mitigation and management consultancy to large policy holders.</p>								

Jeb Brugmann, The Next Practice



# Managing Risks from Climate-Driven Extreme Events

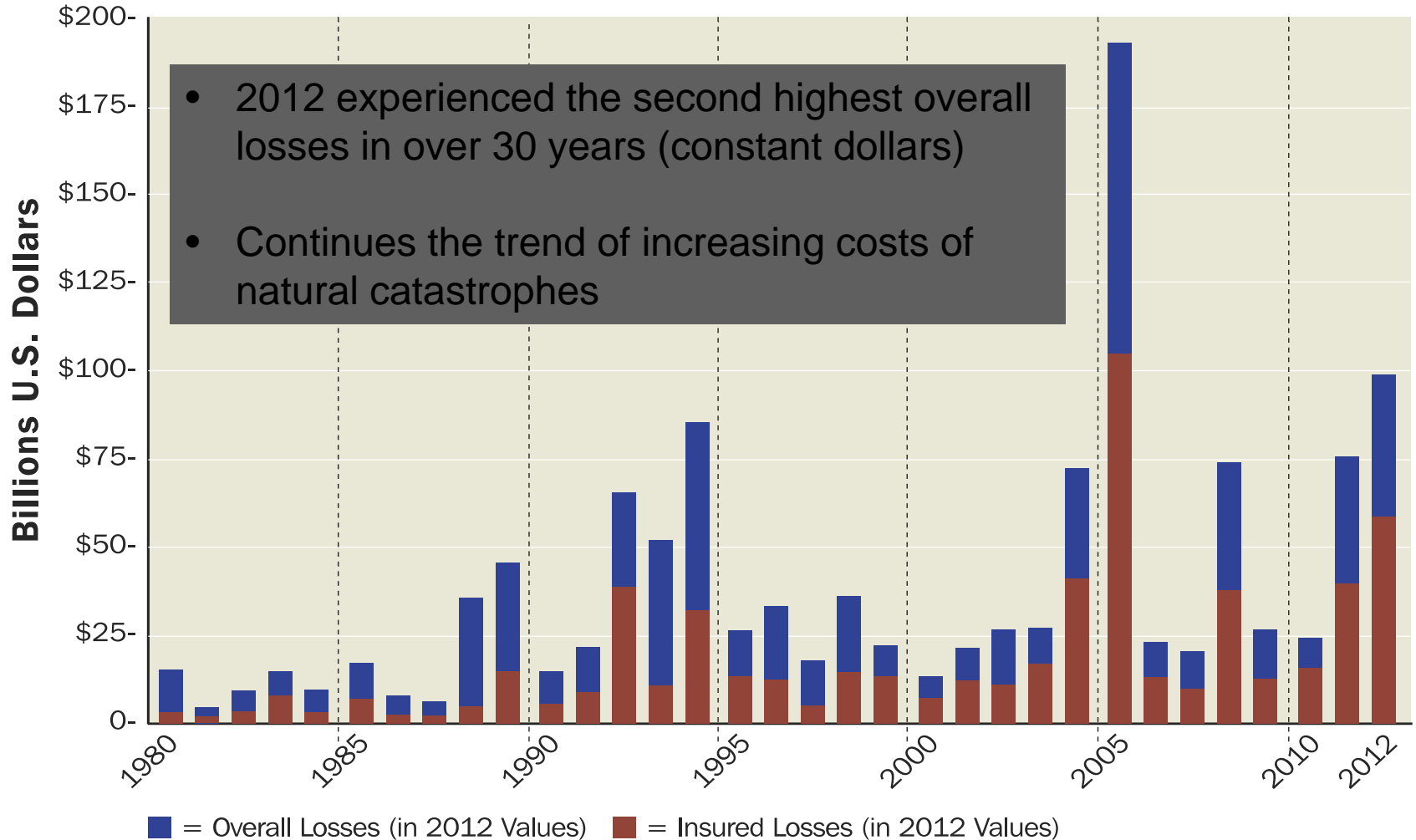
## Strategies:

- **Risk avoidance** = slowing the increasing risk of climate-driven extreme events, i.e. climate mitigation  
↓
- **Risk mitigation** = reducing exposure to risks of extreme events, i.e. climate adaptation  
↓
- **Risk transfer** = transferring risks to a third-party, i.e. insurance  
↓
- **Risk acceptance** = risk is not avoided, reduced or transferred and consequences are borne by some party



# U.S. Natural Catastrophes, 1980 – 2012

## Overall and Insured Losses, US \$b



Source: MunichRe NATCAT Service

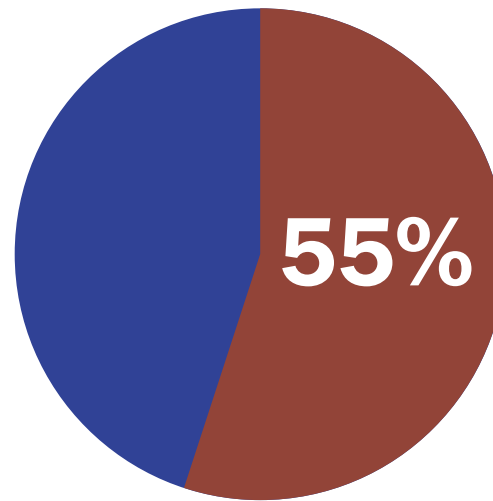
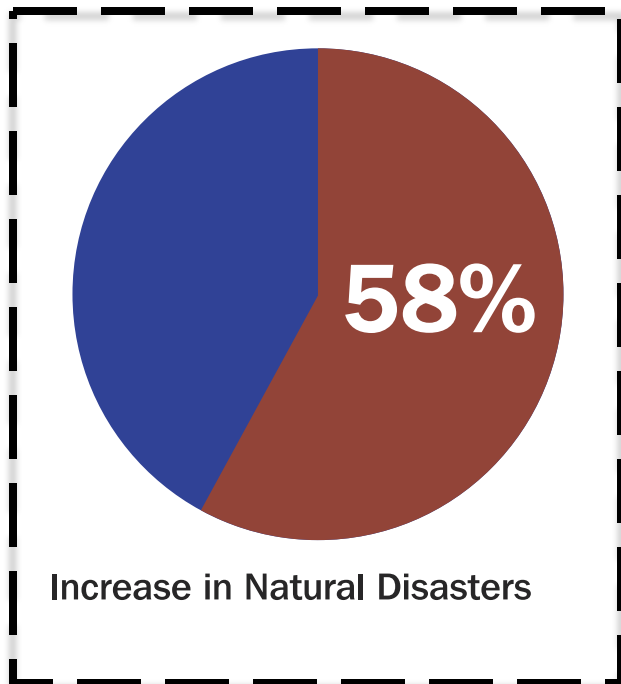
# The Case for Collaboration

- Emissions reduction and risk mitigation will not be enough to protect communities from all climate impacts, particularly from catastrophic risks.
- Risk acceptance through public bailouts is not an equitable or sustainable strategy for dealing with remaining risks
- Insurance is an essential part of the urban resilience toolkit that promotes a cost-effective approach to managing the problem
- However, the viability of insurance products in some areas is threatened by increasing risks and unintended consequences of regulation

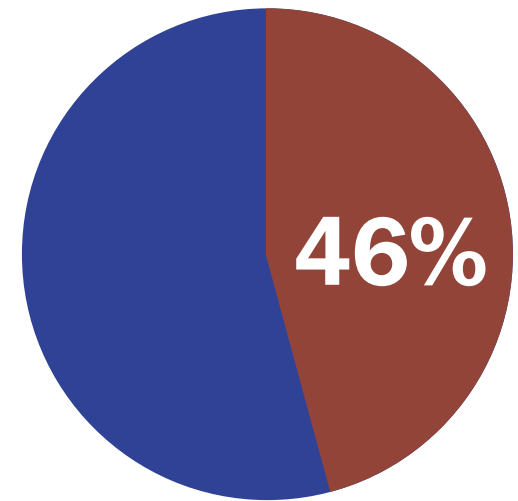


# Insurance equity analysts see natural disasters as a top risk to insurers

“What are the biggest external challenges insurers will face in the coming years?”



Volatile Investment Returns



New Regulations & Reforms

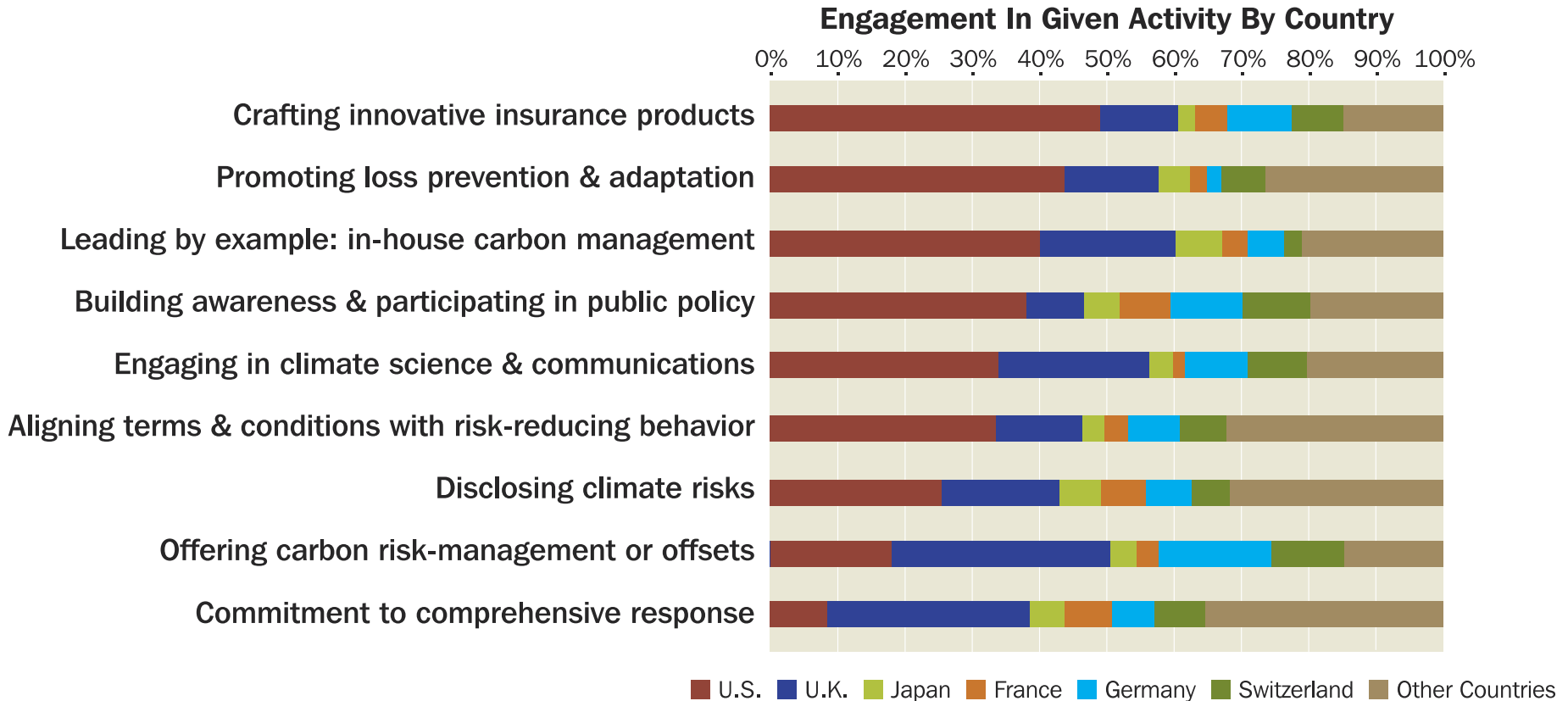


# The Case for Collaboration

- Cities have an interest in utilizing insurance as a resilience strategy
- Cities can help to create conditions for insurance viability and innovation
- Insurers have an interest in supporting climate adaptation, if it can mitigate risks to levels that make insurance more viable



# Opportunities for insurer engagement in climate change adaptation & mitigation



Source: The Greening of Insurance, Evan Mills, December 2012

# A Path Forward

## Ceres/Climatewise/ICLEI Workshops

- City/insurer/investor collaboration around developing “resilience zones”
- Potential for creating districts where risk is pooled and new products are offered
- Resilient practices may generate a premium and make possible new financing mechanisms
- Boston > San Diego > Toronto

Sustainability practitioners and city planners should learn the concepts and language

Reach out to your risk managers

Insurers have an opportunity to invest in creating market conditions for resilience



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