Effective management of disaster risk and opportunities

Public-Private Partnerships (PPP) to Advance Sustainability & Resilience

American Bar Association (ABA)

Government & Private Sector Innovations (GPSI) Committee

UNISDR
The United Nations Office for Disaster Risk Reduction

June 10, 2015

Agenda

The business case for Disaster Risk Management / Disaster Risk Reduction (DRM/DRR)

Definitions

Disaster Risk Reduction (DRR)

- Policy objective of anticipating future disaster risk, reducing existing exposure, vulnerability or hazard, and strengthening resilience.

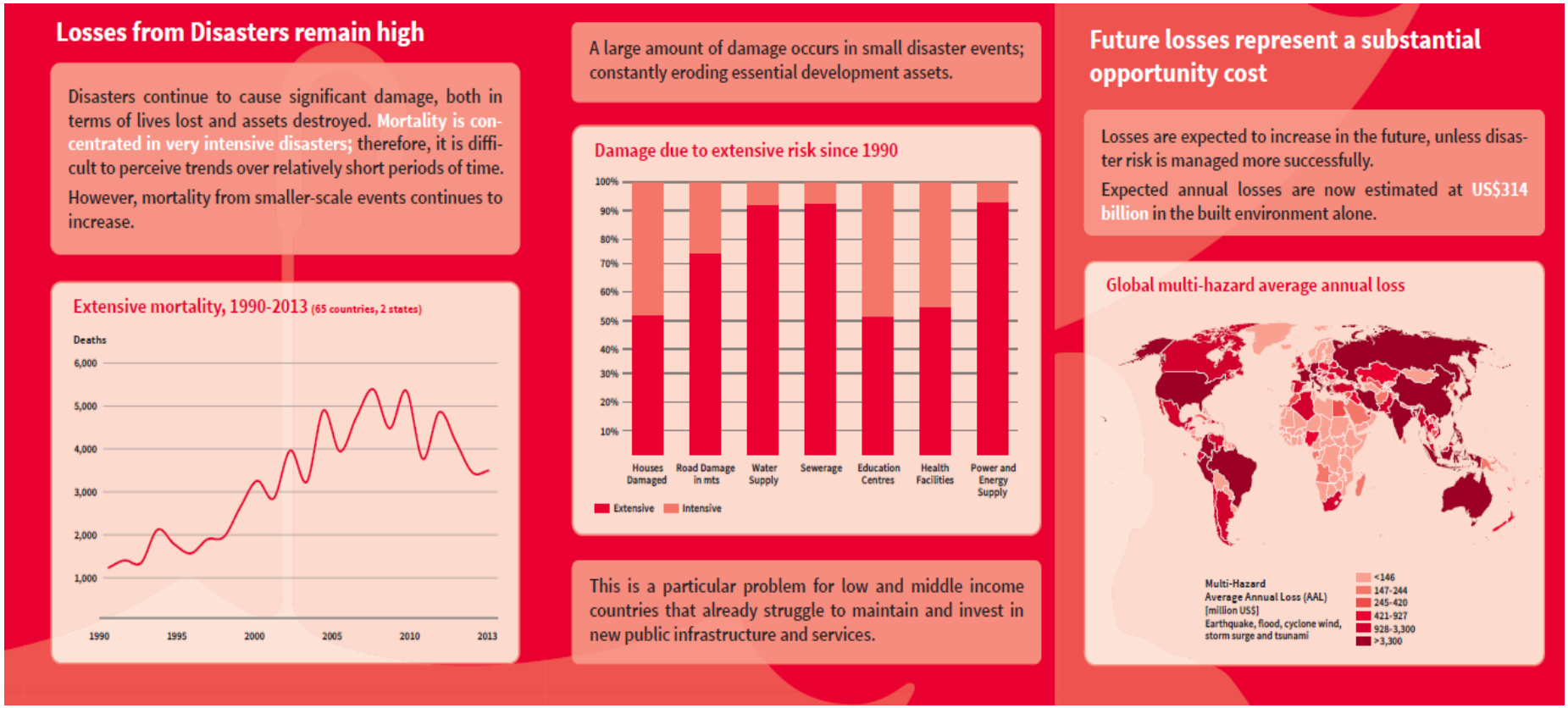
Disaster Risk Management (DRM)

- The actions that aim to achieve this objective including prospective risk management, such as better planning, designed to avoid the construction of new risks; corrective risk management, designed to address pre-existing risks; and compensatory risk management, such as insurance that shares and spreads risks.

[1] http://water.epa.gov/infrastructure/greeninfrastructure/gi_what.cfm

Global Assessment Report (GAR) highlights risks of disaster

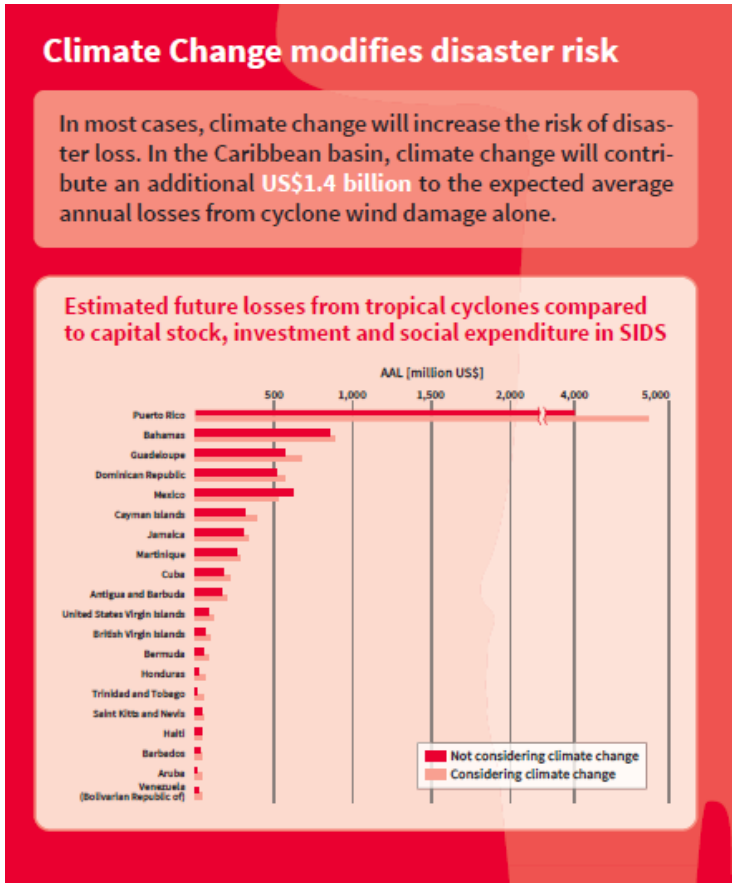
The Global Assessment Report on Disaster Risk Reduction (GAR) is a biennial global assessment of disaster risk reduction and comprehensive review and analysis of the natural hazards that are affecting humanity.

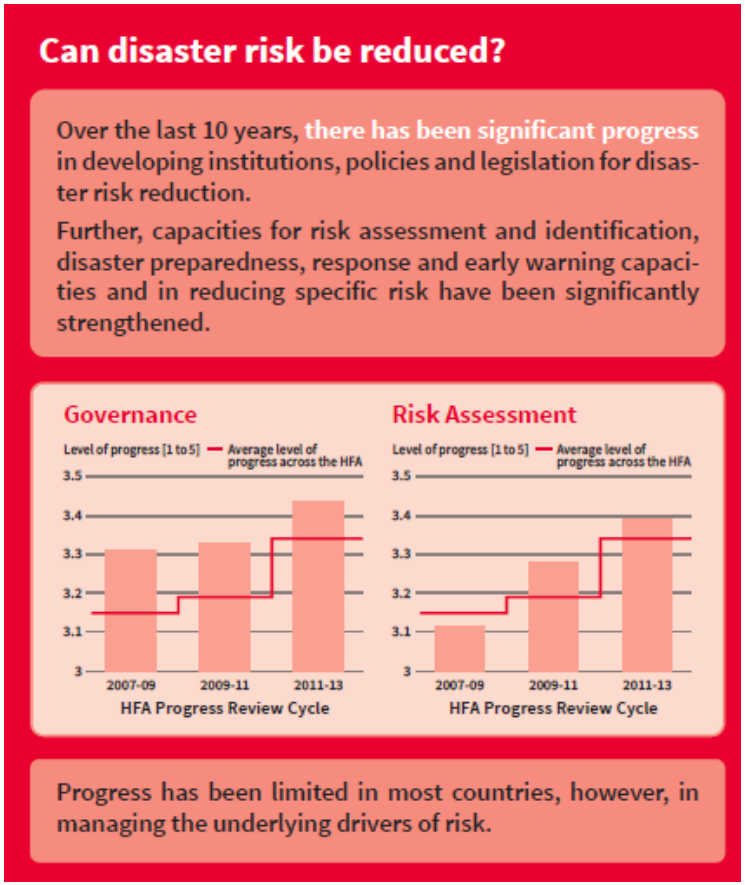


Source: UNISDR Global Assessment Report Infographic, 2015

GAR Report seeks solutions through disaster risk management (DRM)

"Annual global investment of US $6 billion in appropriate disaster risk management strategies would generate total benefits in terms of risk reduction of US$360 billion."





Source: UNISDR Global Assessment Report Infographic, 2015

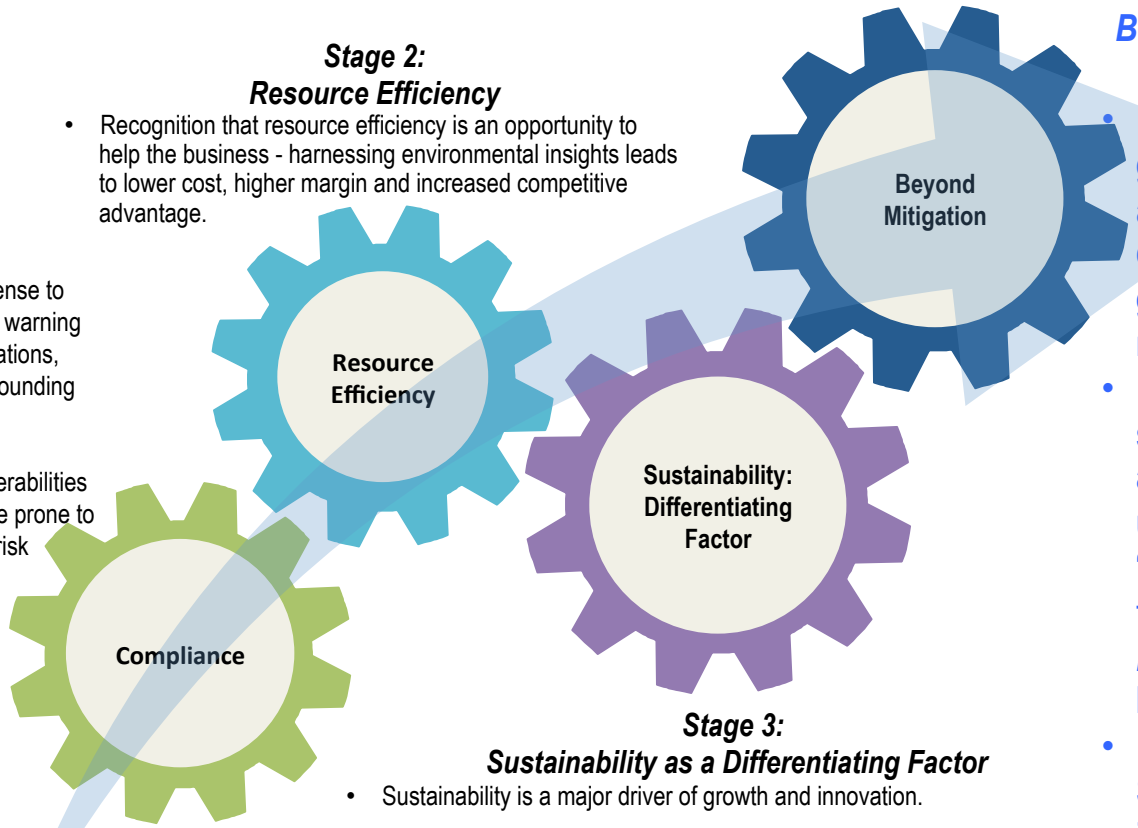
Sustainability maturity framework – from mitigation to resilience

Stage 1:
Compliance

- Companies looking for license to operate and seeking early warning signs to risks in their operations, value chains, and the surrounding landscape.
- Looking to anticipate vulnerabilities and assess where they are prone to environmental and social risk

Stage 2:
Resource Efficiency

- Recognition that resource efficiency is an opportunity to help the business - harnessing environmental insights leads to lower cost, higher margin and increased competitive advantage.



Stage 3:
Sustainability as a Differentiating Factor

- Sustainability is a major driver of growth and innovation.
- Integrating sustainability principles into competitive and corporate strategies generates ideas that create new markets and revenue streams, and transformation to new business imperatives

Stage 4:
Beyond Mitigation – Adaptation and Resiliency

- Mitigation (e.g., conducting greenhouse gas inventories, assessing materiality, establishing impact reduction goals and publicly reporting results) is not sufficient.
- Climate change (e.g., droughts, severe events, rising sea levels,) and corresponding social upheavals requires adaptation to "*new normal*" and businesses that fail to prepare for "*the inevitable*" are at risk of becoming irrelevant.
- DRM must be incorporated into Sustainable Development (SD) in order for SD to be sustainable.

Risk → **Value** → **Growth** → **Responsiveness**

About R!SE

Disaster Risk Reduction – Frameworks and Tools

The Hyogo Framework for Action (HFA)

2005-2015

The Worldwide Conference for Disaster Risk Reduction (WCDRR)

March 14-18, 2015

The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030

Adopted March 18, 2015

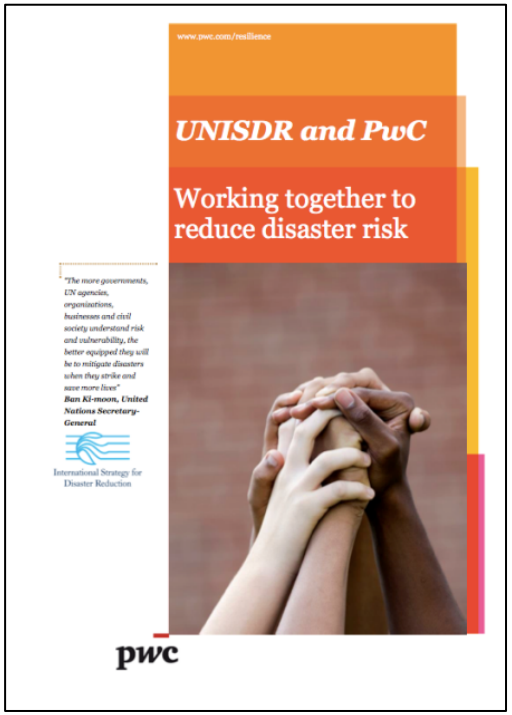
GAR2007 GAR2009 GAR2011 GAR2013 GAR2015

The R!SE Initiative

Surveying to understand why the private sector hasn't engaged in DRM

"The more governments, UN agencies, organizations, businesses and civil society understand risk and vulnerability, the better equipped they will be to mitigate disasters when they strike and save more lives"

Ban Ki-moon, United Nations Secretary-General



Survey* indicated that needed to be:

1. "clear value proposition/business case for investing in prevention rather than just responding"
2. ways to engage private sector in "*tangible, concrete projects and actions*"

*Companies included: ABB; ARUP; BG; Citi; GE; HCC; HIRCO; Hitachi; IHG; Nestlé; NTT East; Roche; SPCL; Walmart

R!SE - a new alliance between six collaborating communities

Alliance to unlock public/private DRM potential

Facilitate joint learning in support of the United Nations system's efforts in building resilience to disasters and climate risks. It will be an opportunity to exchange lessons from practical experience of the public and private sector and access relevant tools and instruments developed in R!SE.

Support the private sector in developing improved disaster risk management capacities.

Increase access to optimal and sustainable disaster insurance to the wider global community, particularly in emerging economies.

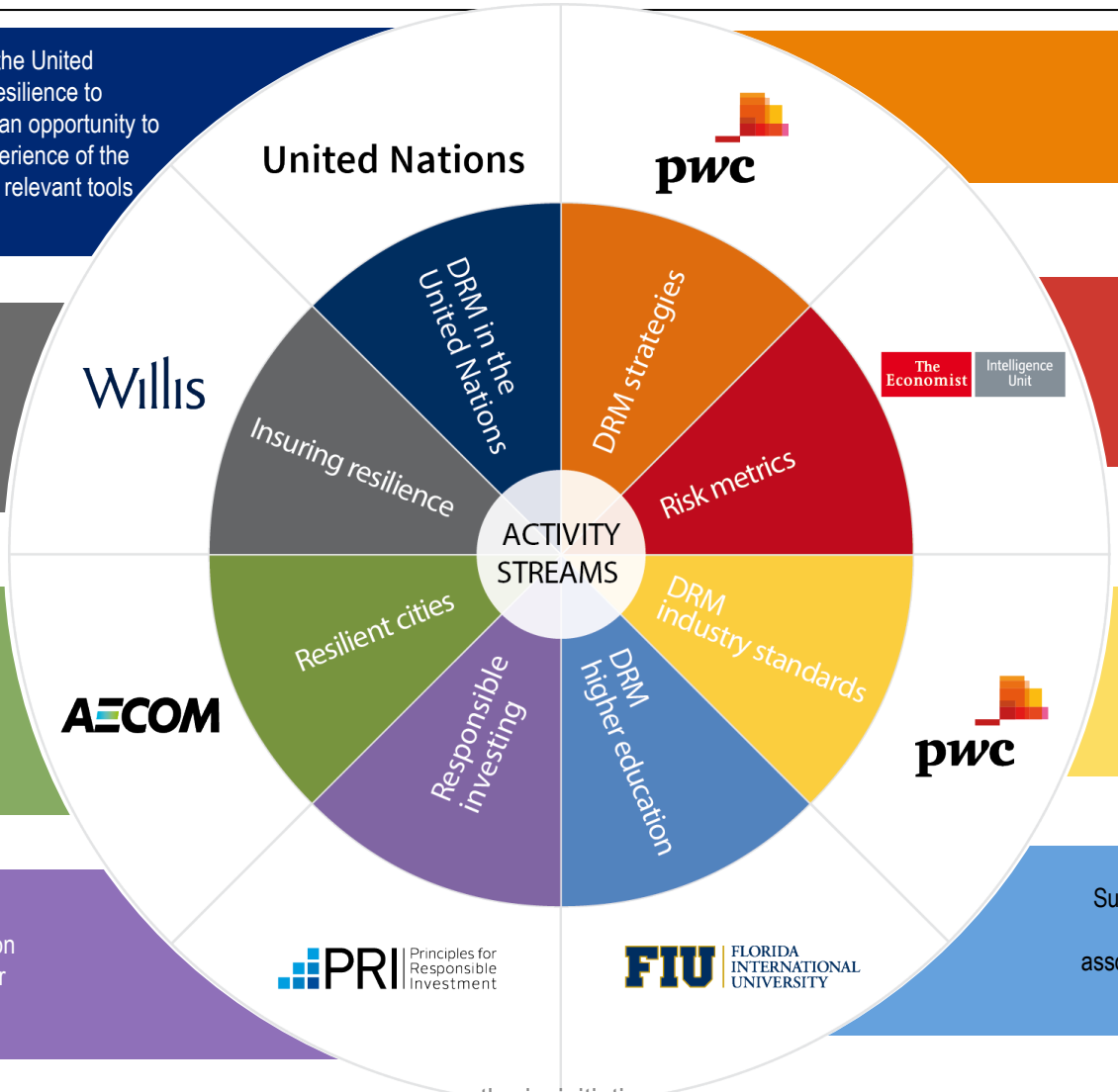
Support the development of improved risk metrics for business and economic forecasting.

Support local business communities and government departments to increase disaster resilience in their municipalities and cities.

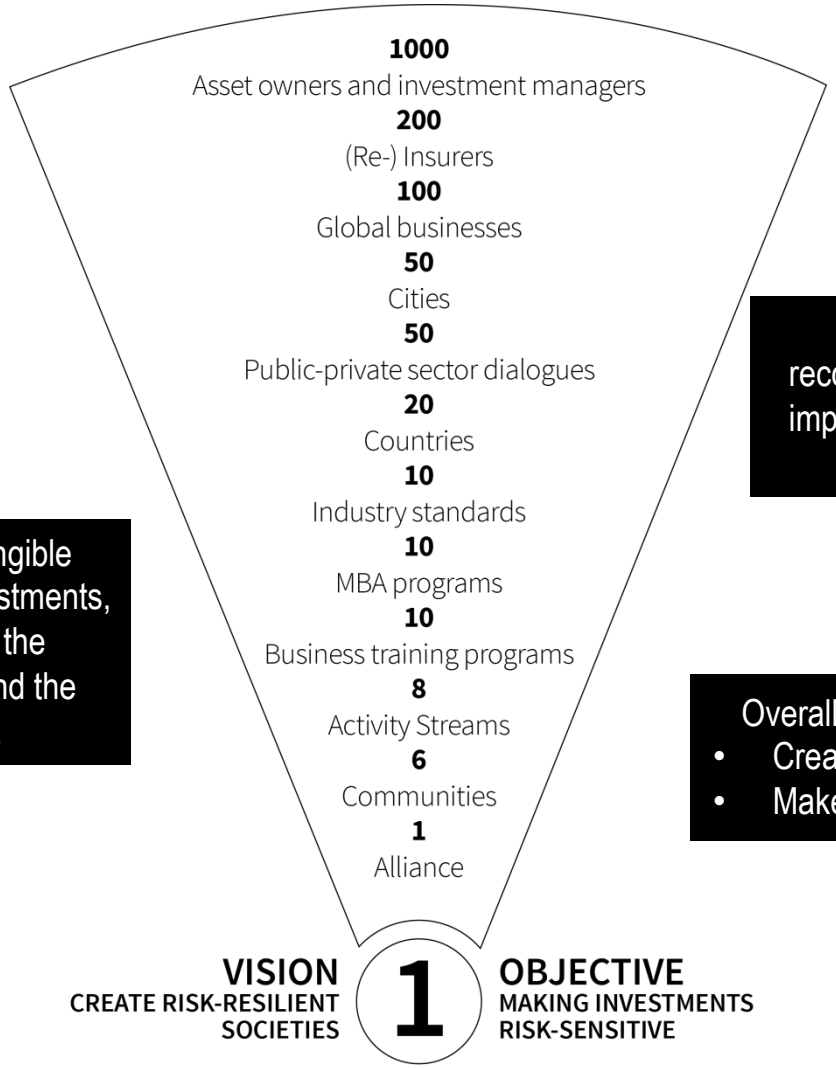
Support the development of voluntary industry standards for disaster risk management.

Engage major institutional investors such as sovereign wealth and pension funds to consider disaster risk in their investment portfolios.

Support academic institutions, training centers and courses and business associations in improving their curricula on business risk management.



R!SE initiative objectives



The aim is to deliver tools, recommendations and good practice to implement comprehensive disaster risk management for investments

Focused on collaboration and tangible action to achieve risk-sensitive investments, R!SE will contribute to building the resilience of local communities and the global economy as a whole.

Overall R!SE vision and objectives are to:

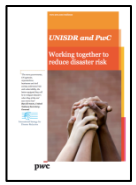
- Create risk-resilient societies
- Make all investments risk-sensitive

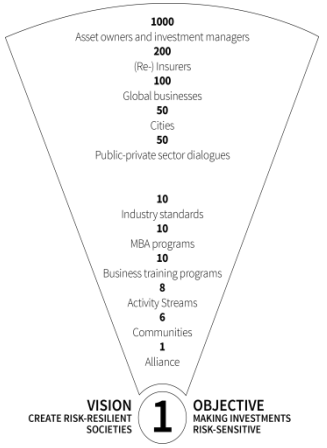
Where is R!SE going?

Launched May 2014, R!SE will continue through 2020

2013 — 2014 — 2015 — 2030

	2013	2014	2015
Intergovernmental events	**Global Platform for Disaster Risk Reduction,** ***May – Geneva***	**Launch of the R! SE Initiative** ***May – New York*** **UN Climate Summit** ***Sep – New York*** **COP 20** ***Dec – Lima***	**World Conference on Disaster Risk Reduction** ***Mar – Sendai*** **COP 21** ***Dec - Paris***
R!SE Events		**Country launches & Project forums**: USA – PF Arkansas (Sep); Brazil – CL Sao Paolo (Dec); Colombia – CL Bogota (Dec); Peru – CL Lima (Dec)	**Country launches & Project forums**: Philippines – CL Manila (Feb); USA – CL Boston (Mar); Japan – CL Tokyo (Mar); Chile - CL (Spring) Canada CL (tbd); France (tbd); Holland (tbd); Germany (tbd); South Africa (tbd); Australia (tbd)
R!SE Activities	• Lead up work to R!SE	• Seek funds, in-kind resources, DRM IP and knowledge contributions. • Commence the implementation of the 8 Activity Streams • Launch the concrete projects to showcase early results at the WCDRR in March 2015 • Continue gathering a wide range of actors from the 6 communities	• Present results from initial Activity Stream and project activity at WCDRR • Deployment and scaling up of global, collaborative efforts to execute the full program of work required to reach initial R!SE objectives by 2020.





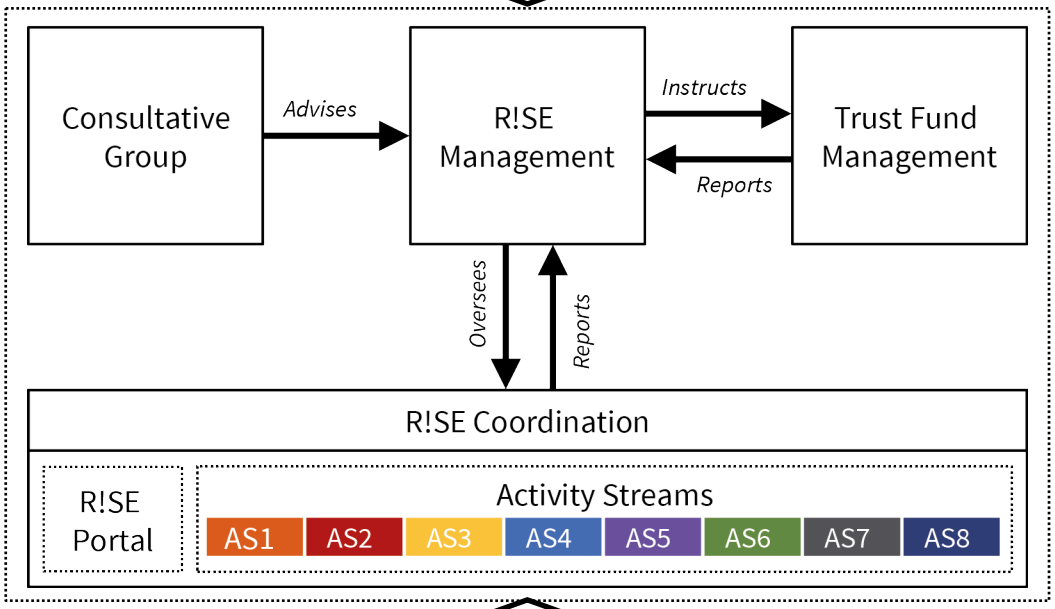
CL= R!SE Country launch
PF = R!SE Project forum on DRM

R!SE Initiative governance

Post-2015 agenda

SDGs (Sustainable Development) **HFA+** (Disaster Risk Reduction) **UNFCCC** (Climate Change)

R!SE operates under UN umbrella, coordinated by United Nations Office for Disaster Risk Reduction* (UNISDR) and supported by the United Nations Office for Project Services* (UNOPS)



R!SE co-developer, facilitates two activity streams, coordination

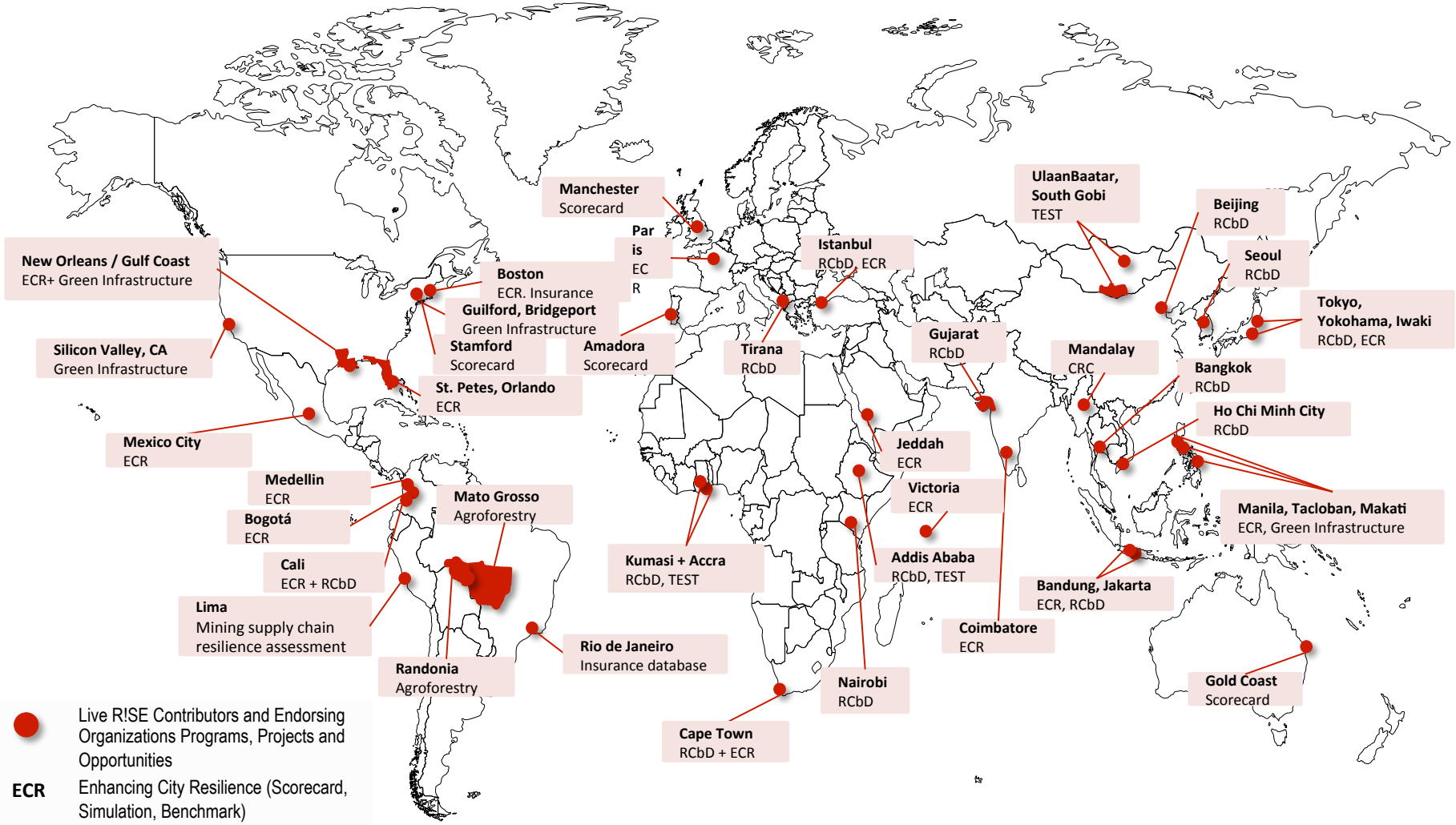
Other organizations…
AXA Citi Walmart NTT ESI RMS SwissRe

Alliance partners

*The United Nations Office for Disaster Risk Reduction (UNISDR) coordinates disaster risk reduction across the United Nations system.
*United Nations Office for Project Services (UNOPS) is a central resource for the UN system in procurement and contracts

Example R!SE projects

R!SE across the globe



●	Live R!SE Contributors and Endorsing Organizations Programs, Projects and Opportunities
ECR	Enhancing City Resilience (Scorecard, Simulation, Benchmark)
RCbD	Resilient Cities by Design
CRC	Community Resilience Coalitions
TEST	The Ecological Sequestration Trust

R!SE's Enabling Cities Resilience (ECR)

Activity Stream 1
DRM strategies

Activity Stream 1 will support the private sector in developing improved disaster risk management capacities.

Activity Stream 6
Resilient cities

Activity Stream 6 will support local business communities and government departments to increase disaster resilience in their municipalities and cities.

Enhancing City Resilience

- Help city stakeholders build productive relationships focused on creating shared value
- Comprehensive series of connected activities to accelerate investment
- Increasing trends in urbanization make cities a focal point for resilience to natural disasters
- Unique UNISDR understanding of the underlying drivers of risk
- PwC deliver high impact awareness and structured assessments of business level resilience
- AECOM are a leader in assessment of city level resilience

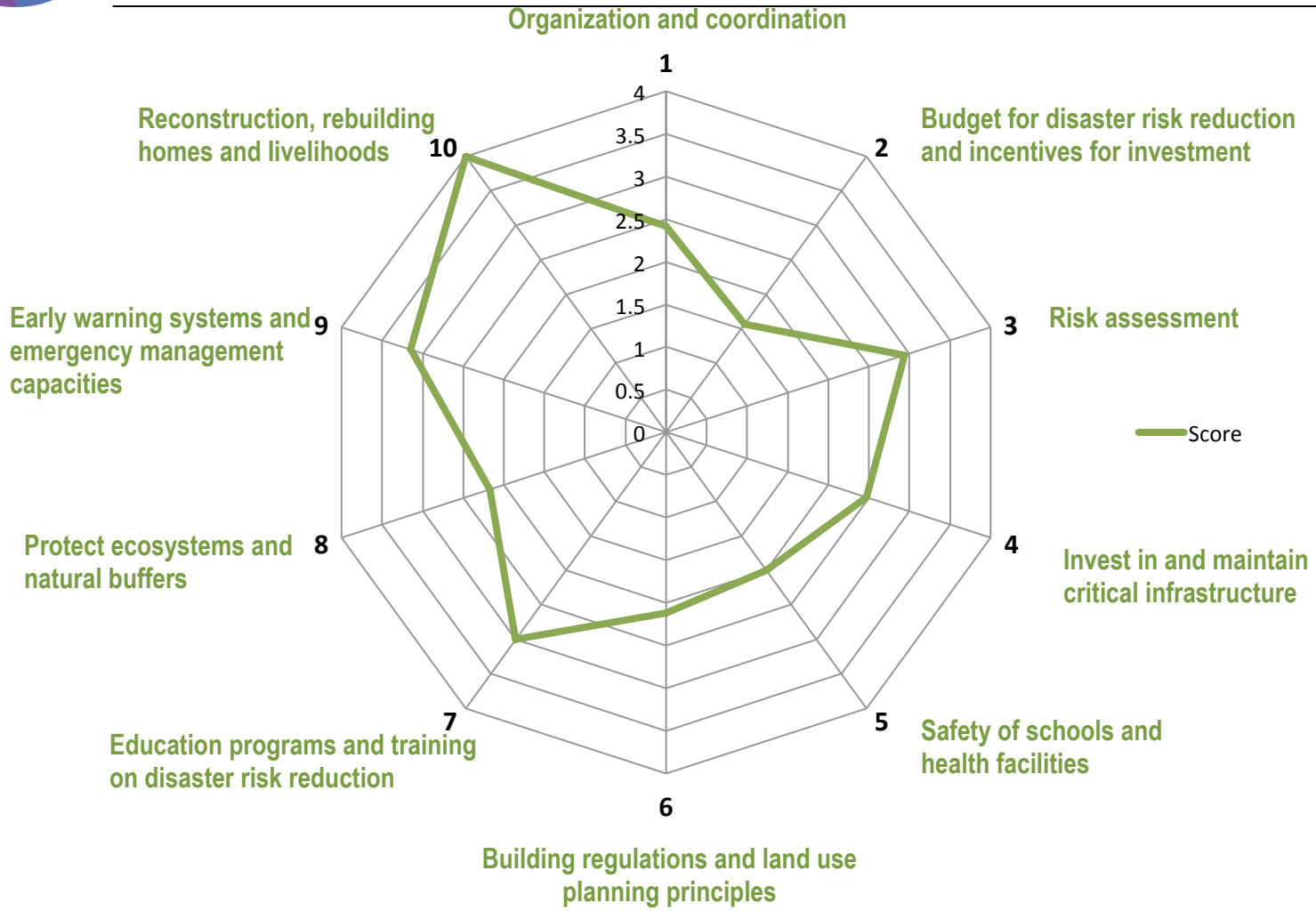
UNISDR Disaster Resilience Scorecard

The Scorecard complements the UNISDR's Local Government Self Assessment Tool (LGSAT)

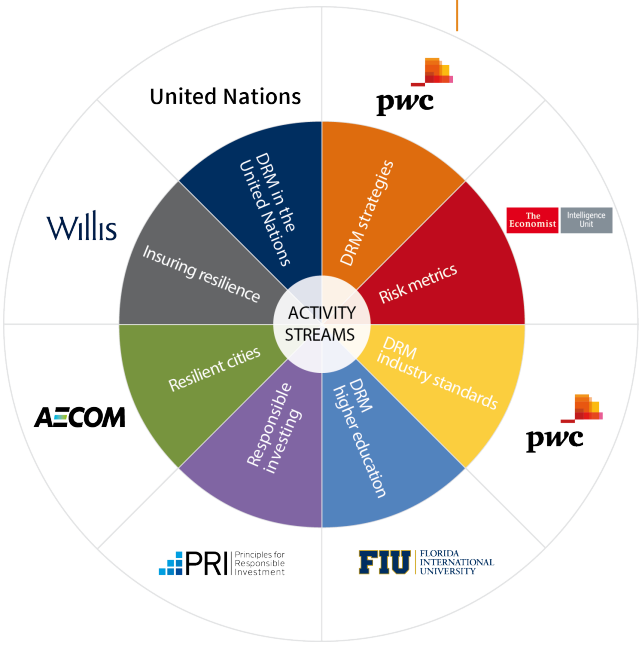
The Disaster Resilience Scorecard

Subject/Issue	Item Measured	Indicative Measurement	Indicative Measurement Scale
Organization and coordination	Co-option of physical contributions by both public and private sectors.	Identification of physical contributions for each major organization.	5 – All key contributions fully defined for pre and post-event, underwritten by MOUs. 4 – Most key contributions defined – some minor gaps in coverage. MOUs may not exist. 3 – Some contributions formally defined but full leverage of private sector yet to be achieved. 2 – One or two contributions defined for specific areas – perhaps via informal agreements. 1 – Plans being developed to seek contributions. 0 – No private sector contribution defined.
	Effectiveness of grass roots organization(s) throughout the city.	Presence of at least one non-government body for pre and post event response for each neighbourhood in the city.	5 – Grass roots organization(s) addressing full spectrum of disaster resilience issues exist(s) for every neighbourhood, irrespective of wealth, demographics etc. . 4 - >75% of neighbourhoods covered. 3 - >50 -75% of neighbourhoods covered 2 - >25-50% of neighbourhoods covered 1 – Plans to engage neighbourhoods and maybe one or two initial cases. 0 – No engagement.
		Grass roots organization meeting frequency and attendance.	5 – For >75% of neighbourhoods, one meeting per month, all personnel roles staffed and 10x formal role-holder numbers in regular attendance. 4 – For 50-75% of neighbourhoods, one meeting per quarter – all roles staffed and 5 x role-holder numbers in attendance. No meetings in the rest. 3 – For 25-50% of neighbourhoods, semi-annual meetings, but with some gaps in roles and less than 3x role-holders in attendance. No meetings in the rest. 2 – For 25-50% of neighbourhoods, annual meetings but with significant gaps in roles and less than 3x formal role-holders in attendance. No meetings in the rest. 1 – Ad hoc meetings in less than 25% of neighbourhoods of a few "enthusiasts". 0 - No meetings.
		Clear identification and coordination of pre and post-event roles for grass-roots bodies, supported by training. Roles agreed and signed off, preferably via MOU or similar.	5 – For >75% of neighbourhoods, roles are defined and filled, coordination is effective within and between grass-roots bodies, and full training is both provided and attended. 4 – For 50-75% of neighbourhoods, roles are defined and agreed, but some minor deficiencies in these or in training, or incomplete staffing in some cases. Coordination generally good but some lapses. No roles defined in the rest. 3 – For 25-50% of neighbourhoods, most roles defined, but with more significant omissions; some training but with gaps in coverage; coordination adequate but could be improved. No roles defined in the rest. 2 – For 25-50% of neighbourhoods, a few key roles defined, but coordination is absent or poor and training notably incomplete. No roles defined in the rest, 1 – Plans in place to define roles and develop coordination mechanisms. 0 – No roles defined and no coordination.

Illustrative Scorecard Summary



R!SE Activity Stream 1 and ECR



Activity 1:

High Impact Crisis Simulation

- A half day highly interactive simulation to enable key city stakeholders to rehearse crisis and resilience arrangements
- An opportunity to explore how to take a partnership approach to enhancing resilience
- Provides understanding on areas where stakeholders can be more prepared and adapt/change existing processes

Activity 2:

Business Resilience Benchmark

- An assessment of business resilience focusing on the core enablers of organizational resilience
- Assessment meetings with key city businesses with results reported back to individual participants
- Benchmark's against other organizations to provide a useful comparison

R!SE benchmarking design and outcomes

- Governance
- Risk management
- Business continuity
- IT resilience
- Information & Cyber Security
- Crisis management
- Regulation
- Physical security
- Organisational Behaviours
- Treasury
- Sustainability

Explores the key aspects that support an organisation's operational resilience

Integrated insight of the 'health' of operational resilience

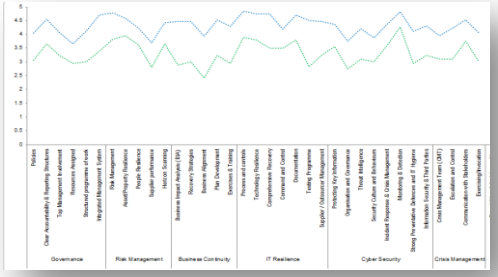
Identification of gaps, exposures and potential over-investment

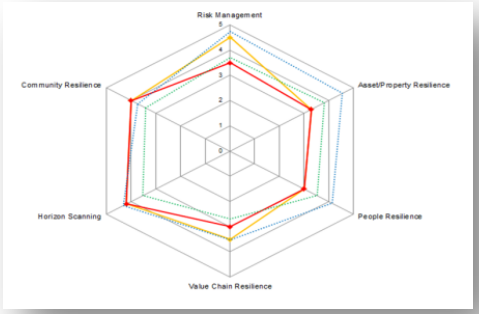
Benchmarked against internal needs and industry norms

Alignment of cross-functional views of those responsible for 'protecting' the organisation

Strategic view to enable investment and resilience and collaboration roadmap planning

Trend analysis when repeated over time

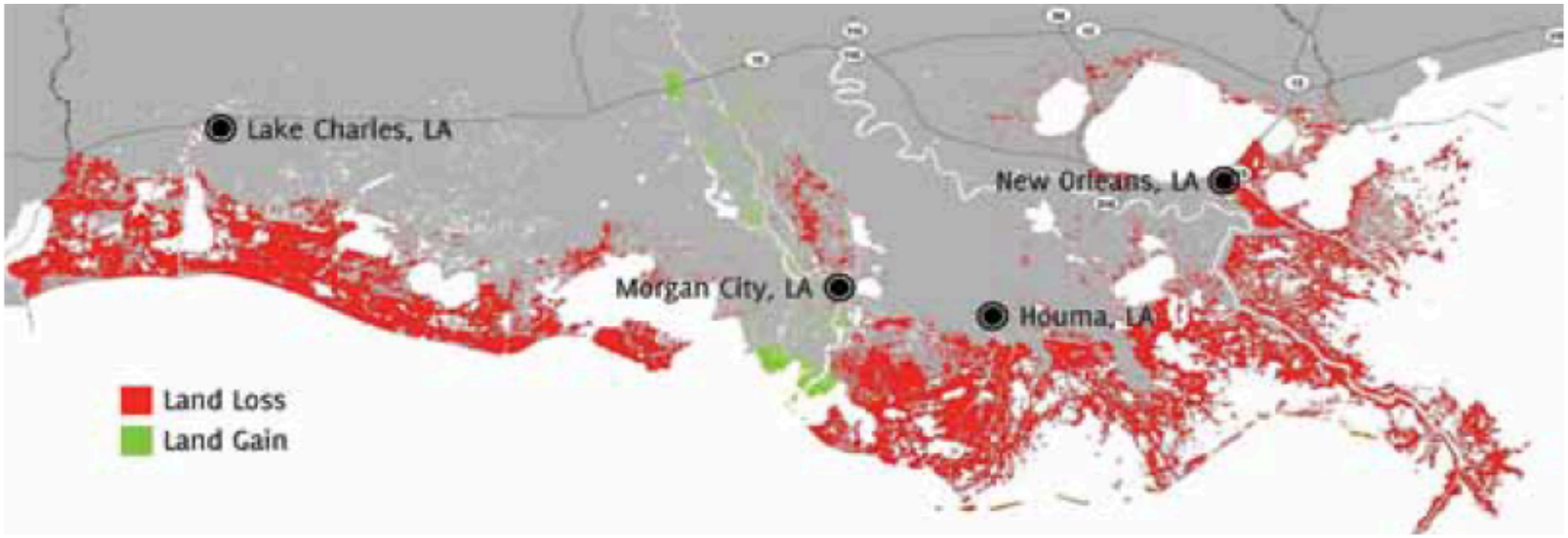




Specific challenges – creating an enabling environment, financing and insurance

The business case for stronger DRR/DRM in the Gulf Coast

The livelihoods of 12 million people, natural resources that support $634 billion in annual GDP, and assets valued at more than $2 trillion are increasingly vulnerable to storm surge, flooding, wind damage and the effects of sea level rise. The study also identified $49 billion in investments over the next 20 years that could avert $137 billion in losses.



Louisiana loses the equivalent of a football field of land every hour.

Projected Land Loss Map, 2012-2061, Louisiana Coastal Protection and Restoration Authority

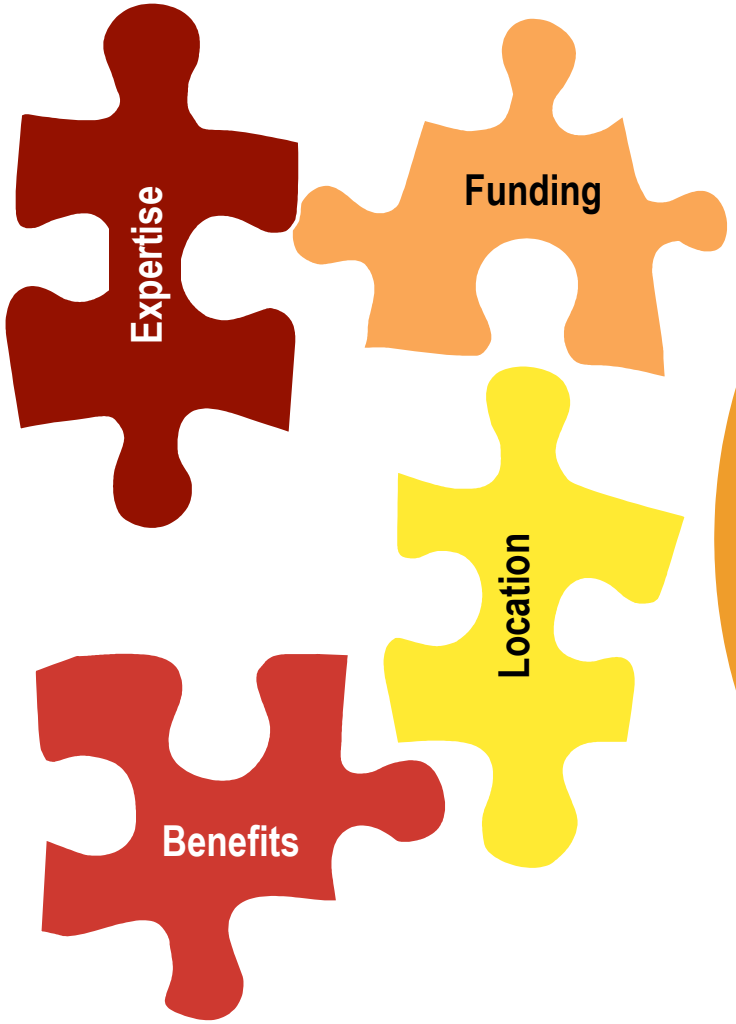
Source: *Beyond Unintended Consequences:* Blue Ribbon Resilient Communities, Envisioning the Future of America's Energy Coast

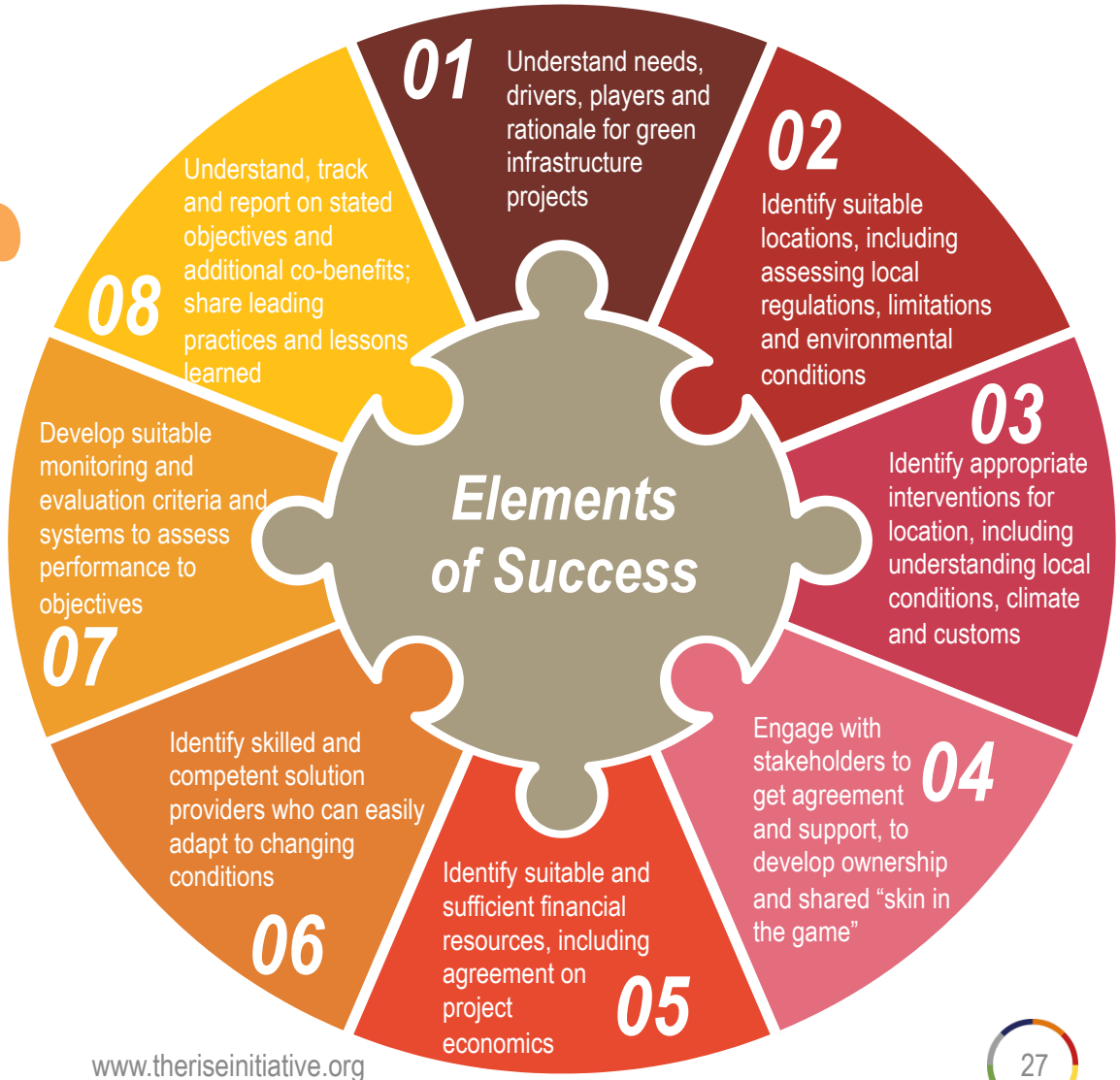
Options: Green Infrastructure (GI), Grey Infrastructure (GRI) and Green-Grey Infrastructure (GGI)

Evaluation criteria	Green infrastructure	Grey infrastructure
Stakeholder engagement	Extended stakeholders are often required to support the project and may have an active and ongoing role in the project design/operation	Stakeholders are often engaged with aim to create local support for project, but without involvement in the project design/operation
Engineering approach	GI solutions require a custom-made, location-specific design and do not lend themselves to standardization/replication	Traditional engineering solutions enable standardization/replication which can significantly reduce project costs & delivery times
Physical footprint	A large physical footprint is often required du to low energy density	Usually, only a small physical footprint required due to high energy density
Environmental footprint	Often reduced environmental footprint due to GI solutions being nature-based and self-regenerating	Often increased environmental footprint due to material/ energy intensive processes (manufacturing, distribution, operation)
Speed of delivering functionality	GI solutions may take time (years) to grow to provide a certain service and capacity	Traditional engineering solutions provide a certain service and capacity from Day One of operations
Susceptibility to external factors	GI solutions are susceptible to extreme weather conditions, seasonal changes in temperature or rainfall and disease	Grey infrastructure is susceptible to power loss, mechanical failure of industrial equipment and price volatility
Operational & maintenance costs	Operating and maintenance costs are often significantly lower (only monitoring and feedback is required)	Operating costs are often significantly higher due to power consumption, and operational and maintenance
Risk of price volatility	GI solutions are relatively insensitive to fluctuations in the cost of raw materials, oil, gas and power	Traditional engineering solutions are sensitive to fluctuations in the cost of raw materials, oil, gas and power
Approach to system monitoring and control	GI solutions are living & complex systems that can be monitored and effectively managed by deep understanding of key control variables	Traditional engineering solutions are man-made systems that are typically designed with established monitoring techniques to effectively manage and control system performance
Required operating personnel	No need for 24/7 operational supervision	Complex control and safeguarding systems typically require 24/7 operational supervision
Expenses for increasing capacity of system	Relatively inexpensive to extend the capacity of the GI solution, provided there is physical footprint available	Extension of capacity could be relatively inexpensive as long as significant modifications or redesign is not required
Need for recapitalization	Recapitalization during the life of the GI solution is usually not significant. End of life replacement/decommissioning will vary greatly depending on GI technology selected but is usually not necessary as GI solutions are self-sustaining and do not depreciate	Gray solutions are depreciating assets with a finite performance capacity and usually requires significant replacement/ decommissioning at end of life

Source: *The Case for Green Infrastructure*. Joint Industry White Paper, Dow, Swiss Re, Shell, Unilever, The Nature Conservancy, June 2013

Projects are complicated – facilitating and organizing various required components





In assessing GI-GGI, should consider three issues:

Financing

Need to have the financing to pay for GI projects:

- Who pays for implementing?
- Does finance community value the investment?
- Is solution cost effective?
- Are projects viewed as mitigation or adaptation?
- How do you calculate ROI?

Engineering

Need to have the right engineered solutions:

- Is solution technically feasible?
- Is solution better than traditional alternatives?
- Does it achieve resilience objectives?
- Is solution replicable and scalable?
- Do stakeholders understand benefits?

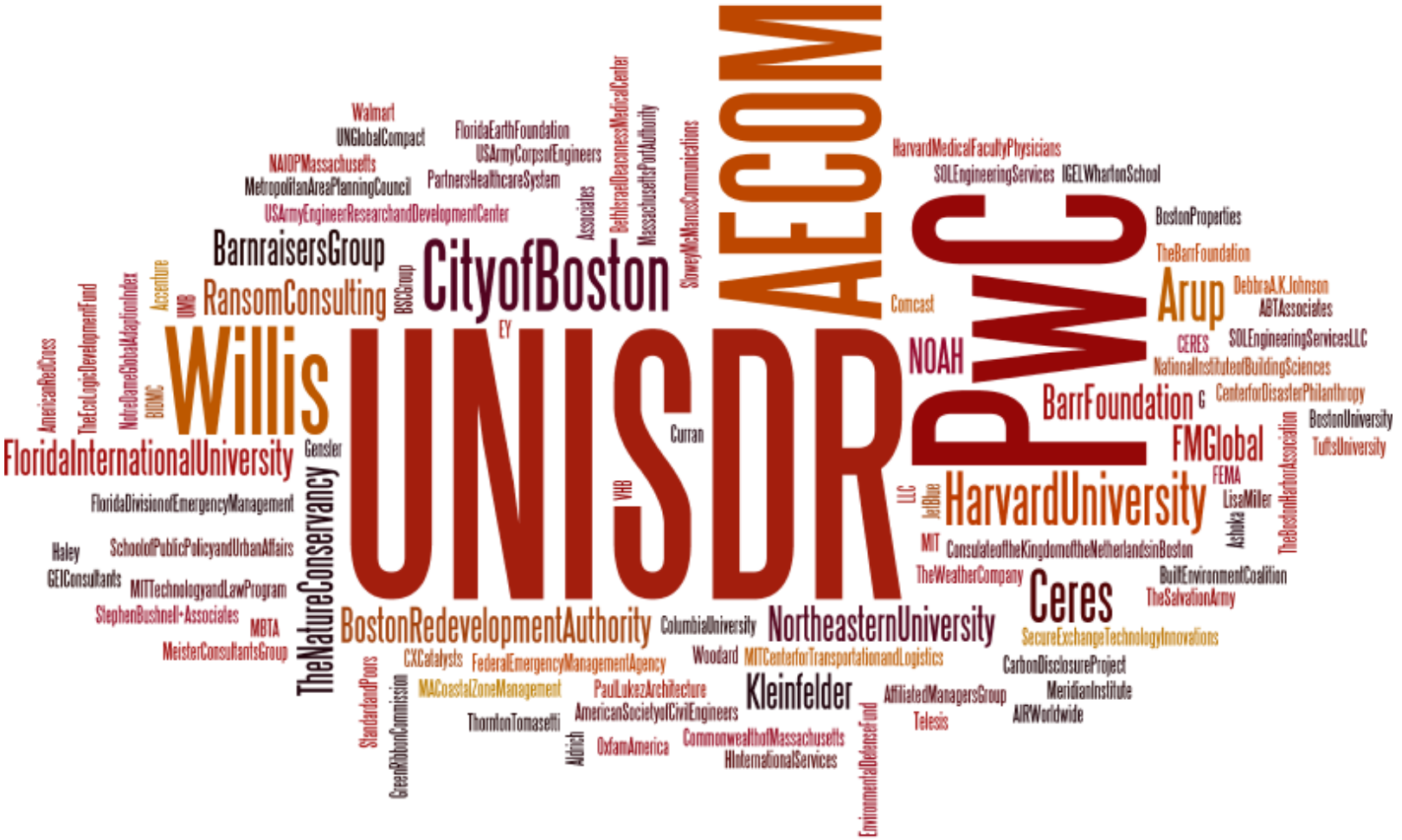
Insurance

Need to see value of insurance transfer:

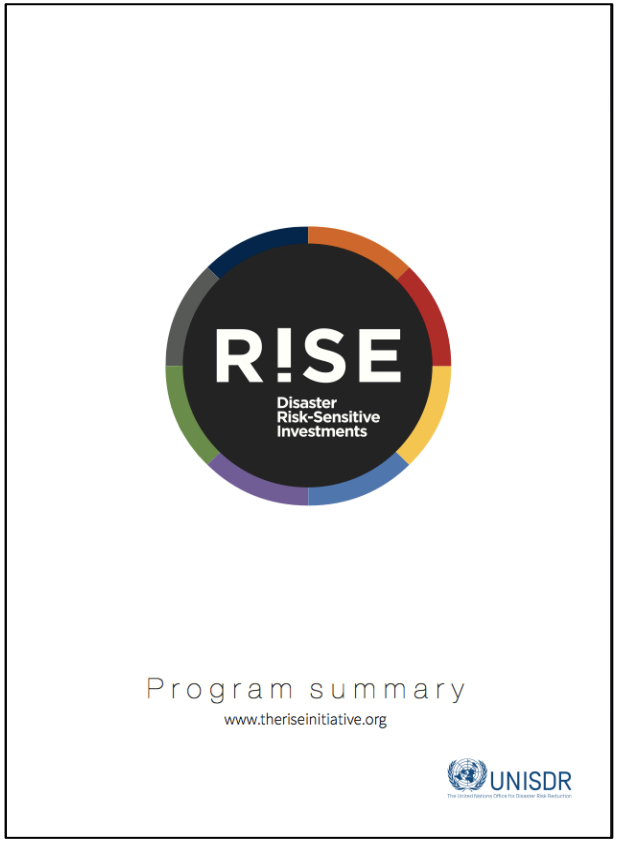
- Does solution adequately reduce risk?
- Can insurance industry appropriately price?
- Is risk mitigation fully appreciated?
- Does society sufficiently recognize value?
- Does solution work?

PPPs – Leading Practices and Lessons Learned

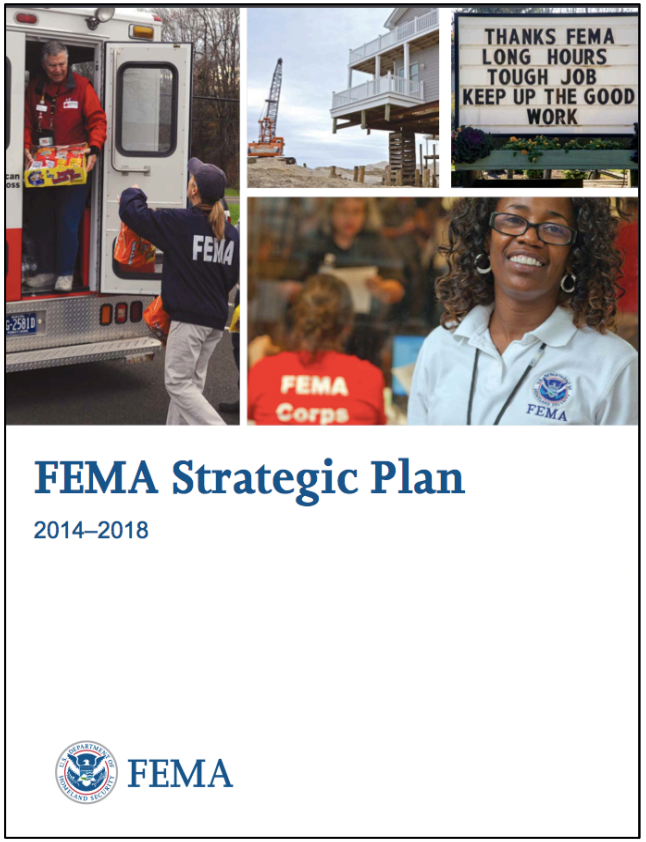
Amplify messages – additive, collaborative, not competitive
US R!SE Launch, March 2, 2015, Boston, MA



Key R!SE and FEMA documents

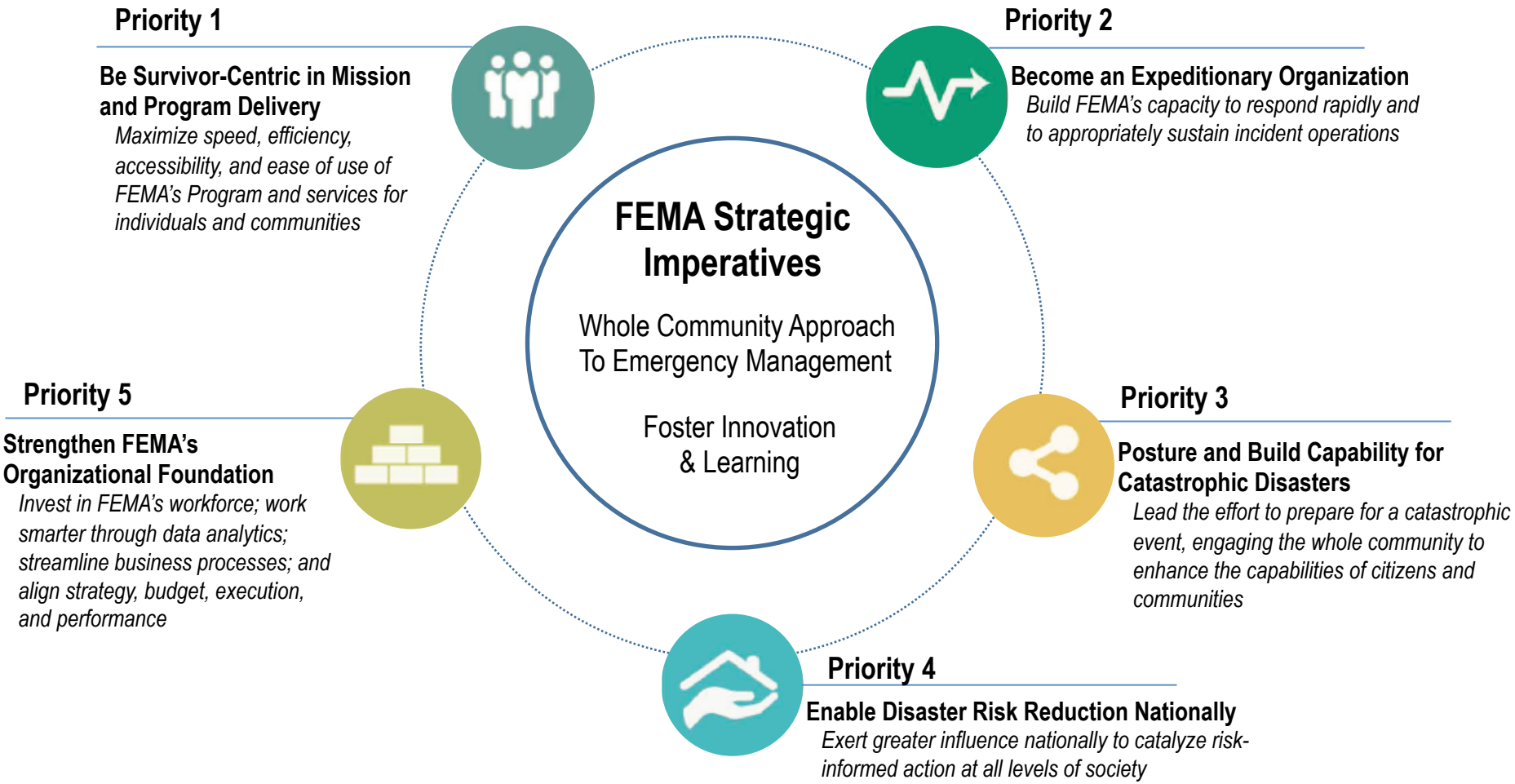


http://www.preventionweb.net/rise/home



http://www.fema.gov/strategic-plans

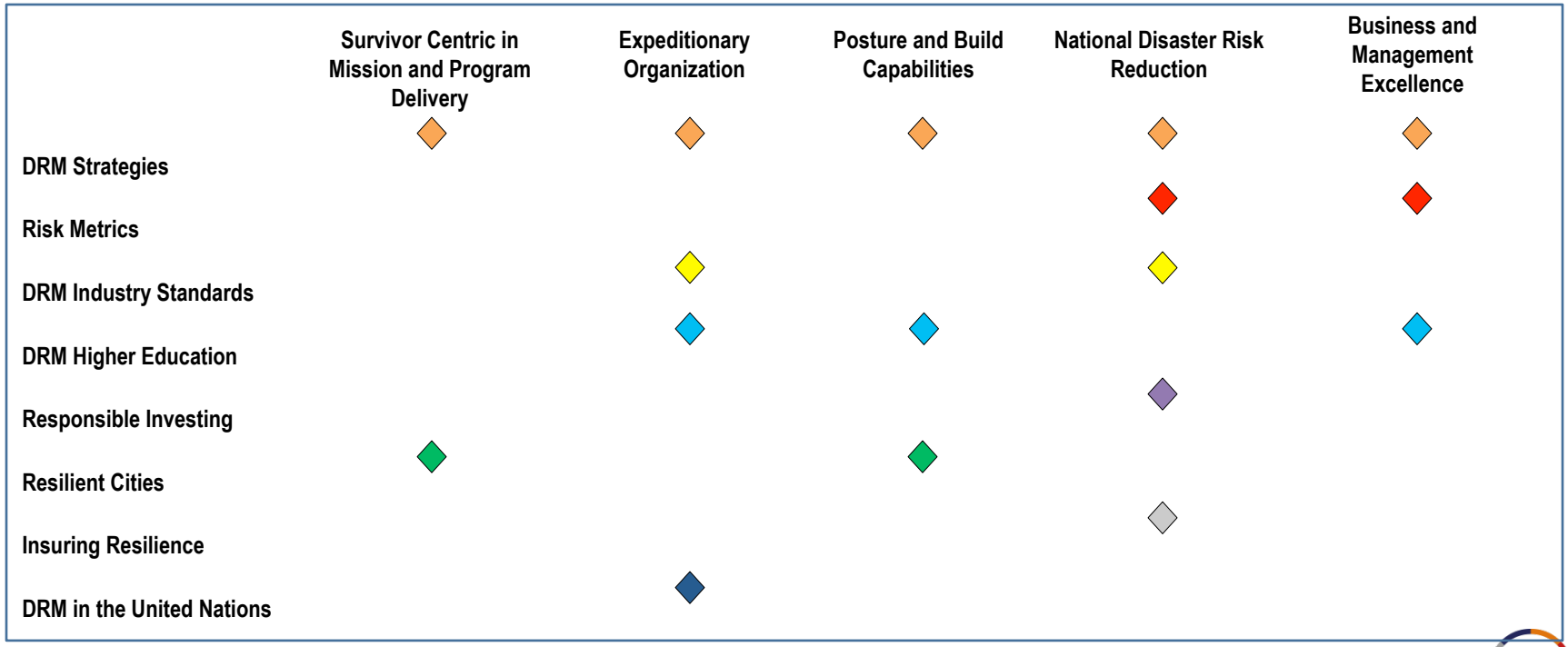
FEMA's Strategic Plan advances the mission of the DHS by strengthening national preparedness and resiliency.



R!SE Activity Streams can assist FEMA realize its Priorities' Key Outcomes

R!SE Activity Streams will…

- Enhance whole community approach by assisting private sector develop DRM strategies (Priority 1)
- Increase the speed of disaster recovery efforts through new industry standards and operating procedures (Priority 2)
- Integrate analytic capabilities to support disaster planning and decision-making (Priority 4)
- Develop resiliency toolkits and training materials for FEMA staff and local communities (Priority 5)



The R!SE PwC Team across the Americas

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Next steps to engaging with R!SE

Time, Talent and/or Treasure

1. Join in future Launch and other R!SE events;
2. Join specific existing R!SE projects;
3. Identify new R!SE projects;
4. Use R!SE to amplify your organization's goals; and
5. …Funding always welcome

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