

Swenja Surminski Managing Director, Climate and Sustainability Marsh McLennan Advantage

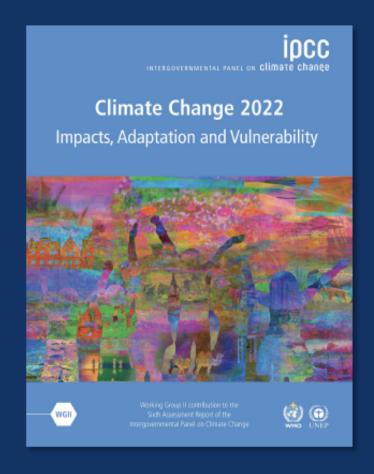
November 2022

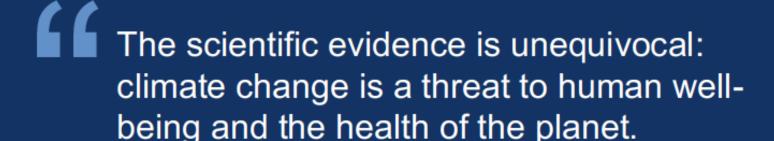


# Storyline

COP27 SHARMEN 2022FBM

- ➤ The 3 As of COP 27: Africa, Accountability, Action
- ➤ The **science** is clear take a look at the IPCC's recent reports.
- > Transitioning to net zero is difficult and doing so while the climate is already changing is even harder.
- Achieving net zero without adapting to the physical risks of climate change is not possible.
- Climate data and analytics have come a long way but does it get used, is it usable?
- > Nature-based solutions are a key tool, but we need right metrics.
- Climate finance at the heart of the discussions but do we have the right instruments and incentives?



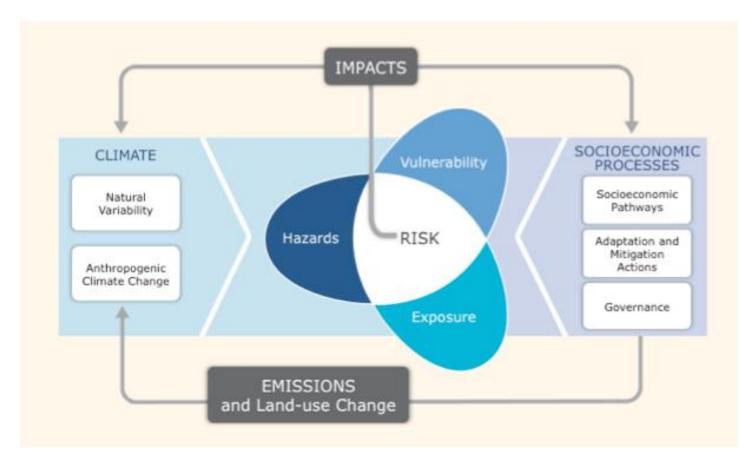


Any further delay in concerted global action will miss the brief, rapidly closing window to secure a liveable future.

This report offers solutions to the world.



# The climate risks perspective



"Risk from a changing climate comes from vulnerability (lack of preparedness) and exposure (people or assets in harm's way) overlapping with hazards (triggering climate events or trends)"

Risk = exposure + vulnerability + hazard

# The transition challenge

- > The Energy Trilemma is in full display: Achieving energy security, equity and environmental sustainability.
- > 2022 as a test year: how strong are the commitments, how vocal the protesters, how visible the political leaders?
- 2022 also demonstrated the risks to the transition from a changing climate: heat and droughts as a challenge to the energy system particularly for

hydropower.



# The resilience challenge

- > Climate resilience is gaining traction.
- > Risk of lock-ins: Today's decisions don't consider tomorrow's risks.
- Adaptation and resilience is an investment opportunity.
- > There are many environmental, social and economic co-benefits.
- > A clear vision and measurable targets for adaptation are needed.













# Components and underlying drivers of climate risk





**Examples of underlying drivers** 



Hazard

- Natural variability
- Climate change
- Flood control infrastructure



#### Exposure

- Population growth
- Urbanization
- Economic growth
- Land-use planning

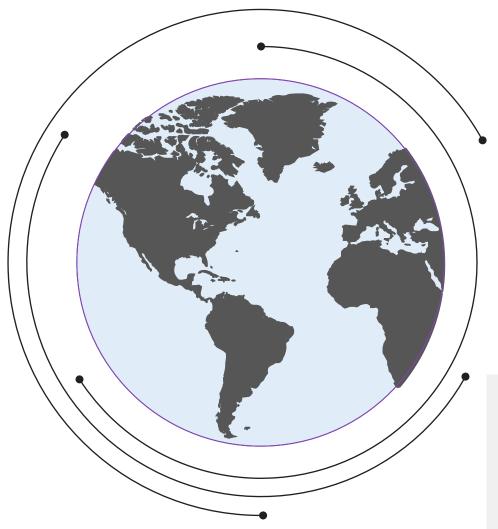


#### Vulnerability

- Poverty levels
- Infrastructure resilience
- Insurance penetration
- Governance and institutions
- Access to healthcare and education



# **Example flooding**



Source: Marsh McLennan estimates

Note: Future percentages are calculated using present values of population and assets

#### **Population affected**

Present day: 18%

1.5°C: 31%

2°C: 36%

3.5°C: 45%

#### **Urban areas affected**

Present day: 12%

1.5°C: 24%

2°C: 28%

3.5°C: 36%

#### Power plants affected

(% of power generation capacity)

Present day: 19%

1.5°C: 33%

2°C: 36%

3.5°C: 42%

#### International airports affected

(% of airport seats)

Present day: 17%

1.5°C: 31%

2°C: 33%

3.5°C: 40%

### International ports affected

(% of trade outflows)

Present day: 22%

1.5°C: 40%

2°C: 45%

3.5°C: 52%

# Solutions for climate resilience

Every \$1 invested in climate resilience today will save at least \$5 of damages in the future.

# Behavioral Changing timing of agricultural practices, supply chain diversification, advisory services, risk information sharing, public engagement, skills development in adaptation actions, evacuation and relocation. Financial Risk finance and transfer solutions such as traditional insurance and community-based catastrophe insurance, and green finance investments.

**R&D** and data

#### Institutional

Public policies, laws, regulations, and risk disclosure and reporting.

#### **Engineered**

Enhanced building design standards, retrofitting, road resurfacing, flood barriers, and drainage systems.

#### Nature-based

River restoration, natural flood retention, increasing plant diversity, habitat creation, soil conservation, increasing coastal and marine vegetation, green drainage systems, and urban greening.

#### New technologies

Digitization, AI, big data, and remote sensing to improve warning systems and response measures.



Risk analytics, monitoring and surveillance,

tools, and early warning and alert systems.

inspections, forecasting, research, decision support

# The nature challenge

SIXTH ASSESSMENT REPORT

Working Group II - Impacts, Adaptation and Vulnerability







## Nature's crucial services at risk in a warming world



**Pollination** 



Health



Coastal protection



Water filtration



Tourism / recreation



Clean air



Food source



Climate regulation

[Ocean Image Bank/ Shaun Wolfe, Dimitris Poursanidis; FAO/Kurt Arrigo, Unsplash, Axel Fassio/CIFOR CC BY-NC-ND













# The climate finance challenge

- Huge amounts of public and private capital needed to address the challenges US\$ 100bn year goal not achieved yet, but expected to be met by 2023/24 mostly by governments and public development banks.
- Discussions about unlocking private capital, net zero finance agenda more regulation in order to drive out greenwashing?
- Increased focus on the social dimension of climate finance (just transition, social protection)
- Investment in nature and nature based solutions is growing but still small.

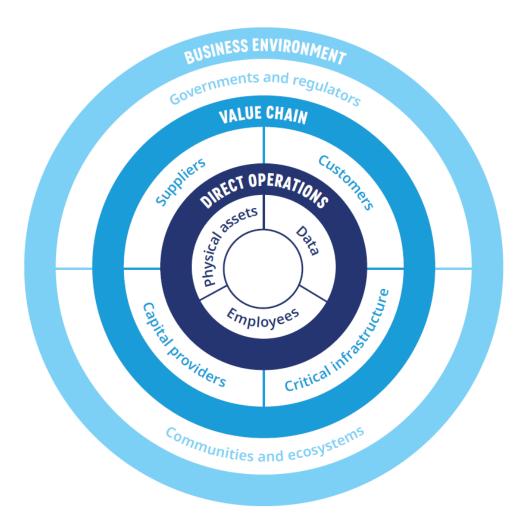
Internationally just 12% of funds for disaster management are put into risk reduction and prevention (adaptation/resilience) prior to a disaster, while 88% go into funding responses during, and after an event, including repair or reconstruction.

*Tanner*, T.M., *Surminski*, S., Wilkinson, E., Reid, R., Rentschler, J.E., and Rajput, S. (2015) The Triple Dividend of Resilience, World Bank/ODI

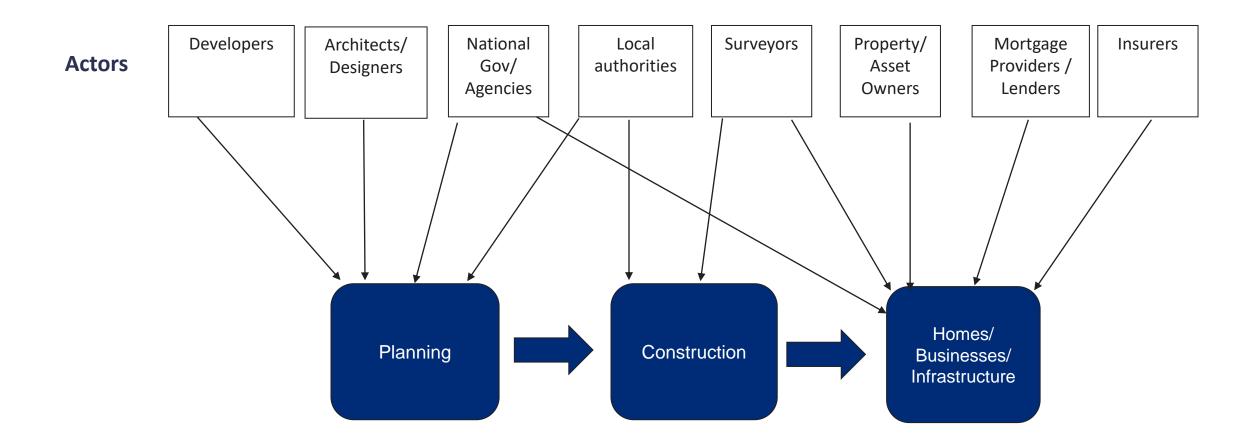


# Take a 360-degree view of climate risk

Infrastructure owners and operators (and users!) need to rethink and expand their approach to climate risk management.



# The key is to involve all those who make decisions that influence current and future risk levels ...



Based on: Surminski, S. (2019): Flood Insurance and Flood Risk Reduction, in Oxford Research Encyclopaedia of Natural Hazard Science



We are leaders in risk, strategy and people. One company, with four global businesses, united by a shared purpose to make a difference in the moments that matter.

Marsh GuyCarpenter Mercer OliverWyman