



**JOIN US  
IN THE RACE  
TO A BETTER  
WORLD**

# Race to Resilience Metrics Framework

*Draft*

June 2021

# This document is designed to provide a working understanding of the Race to Resilience campaign metrics



## Document roadmap



# Contents

## 1. Context and objectives

2. Our metrics

3. Our methodology

4. Further guidance

# The Race to Resilience mission is to increase action and investment in climate resilience and adaptation



## Climate change

Addressing the *causes* of climate change

Mitigation

Race to Zero campaign and initiatives

Coping with the *consequences* of climate change

Adaptation

Race to Resilience campaign and initiatives



Race to Resilience (R2R) is a sibling to Race to Zero (Rt0), launched by the High-Level Climate Champions.

**Race to Resilience is a global campaign** to deliver a step-change in global ambition for climate resilience, **putting people and nature first**

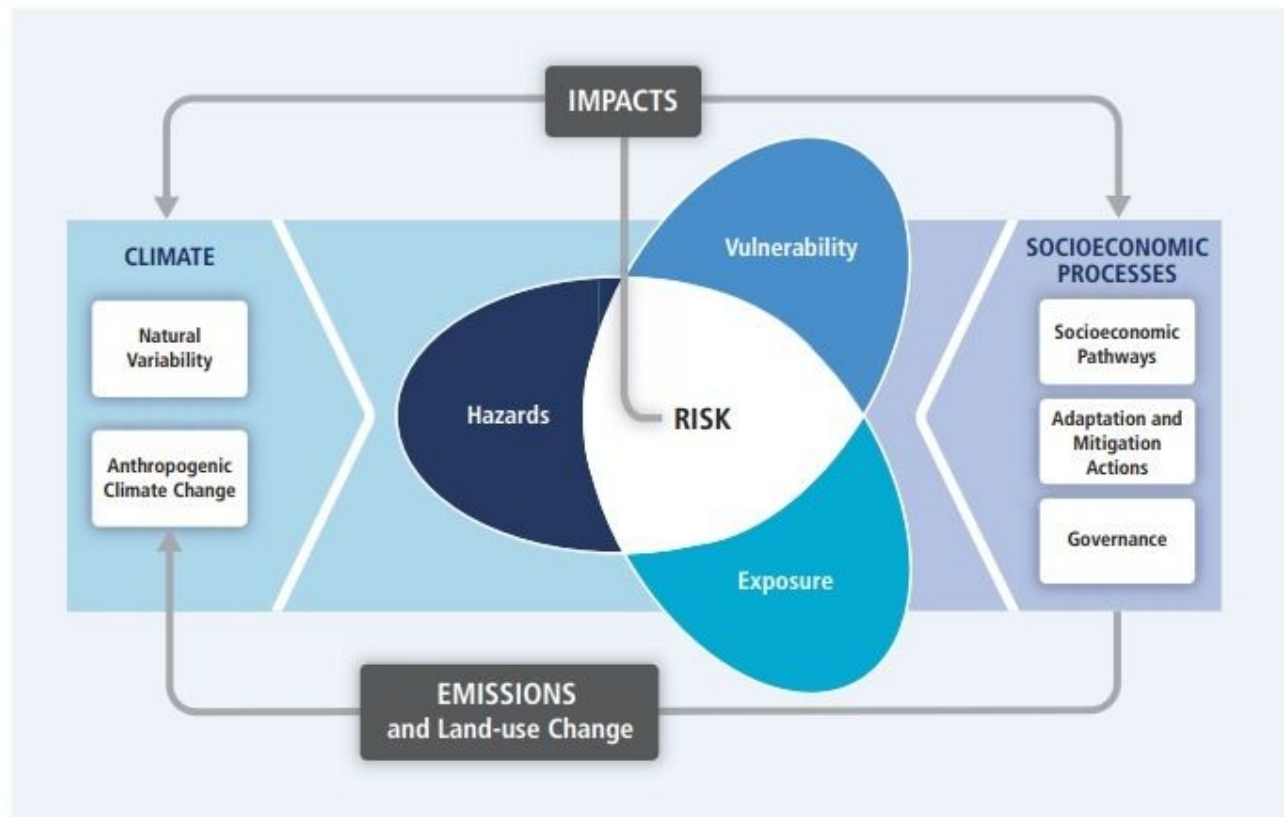
In pursuit of a resilient world where we don't just survive climate shocks and stresses but **thrive** in spite of them

**Together, we can do this**  
**Together, we will thrive**

# Risk of climate-related impacts results from the interaction of hazards with the vulnerability and exposure of human and natural systems



## IPCC Conceptual framework of risk



Changes in both the climate system (left) and socioeconomic processes, including adaptation and mitigation (right) are drivers of hazards, exposure and vulnerability.

Resilience results in increased adaptation and reduces overall risk.

**Figure SPM.1** | Illustration of the core concepts of the WGII AR5. Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems. Changes in both the climate system (left) and socioeconomic processes including adaptation and mitigation (right) are drivers of hazards, exposure, and vulnerability. [19.2, Figure 19-1]

# Climate risk is defined as a function of hazard, exposure and vulnerability



**Risk**



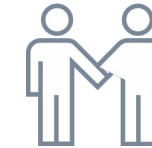
**Hazard**

**A climate-induced event or trend** that may cause damage to human life, property, infrastructure, livelihoods, service provision, ecosystems and environmental resources



**Exposure**

**The presence of people, assets or ecosystems** in an area where hazards may occur



**Vulnerability**

**The propensity of a population, asset or ecosystem** to be adversely affected as a result of sensitivity and / or capacity to cope and adapt



**Definitions are tailored to the campaign** and are not imposed on member initiatives; they accommodate a broad spectrum of working definitions within the metric framework.

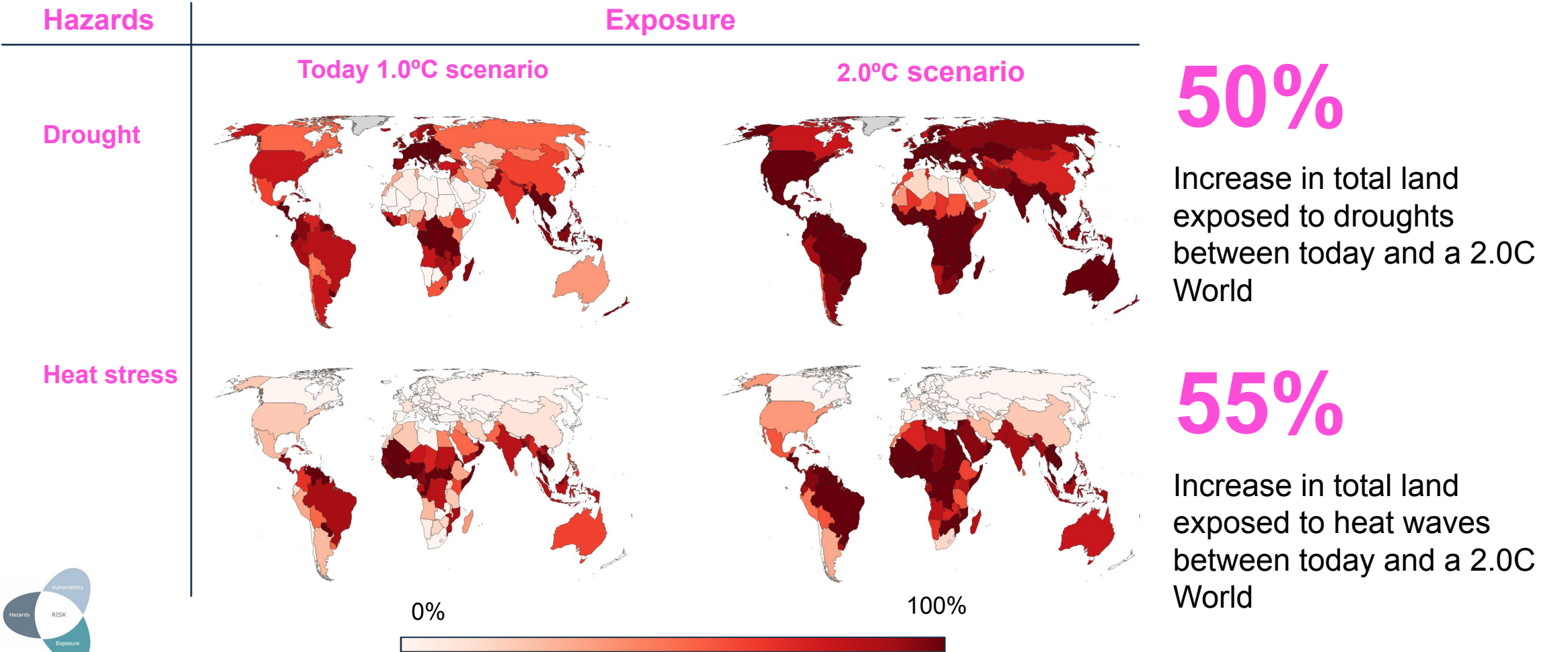
Source: IPCC (2019)



# Risk Analytics on hazards and exposure are assessed separately, hazards will proliferate across the world



Proportion of country landmass exposed to climate hazard, %

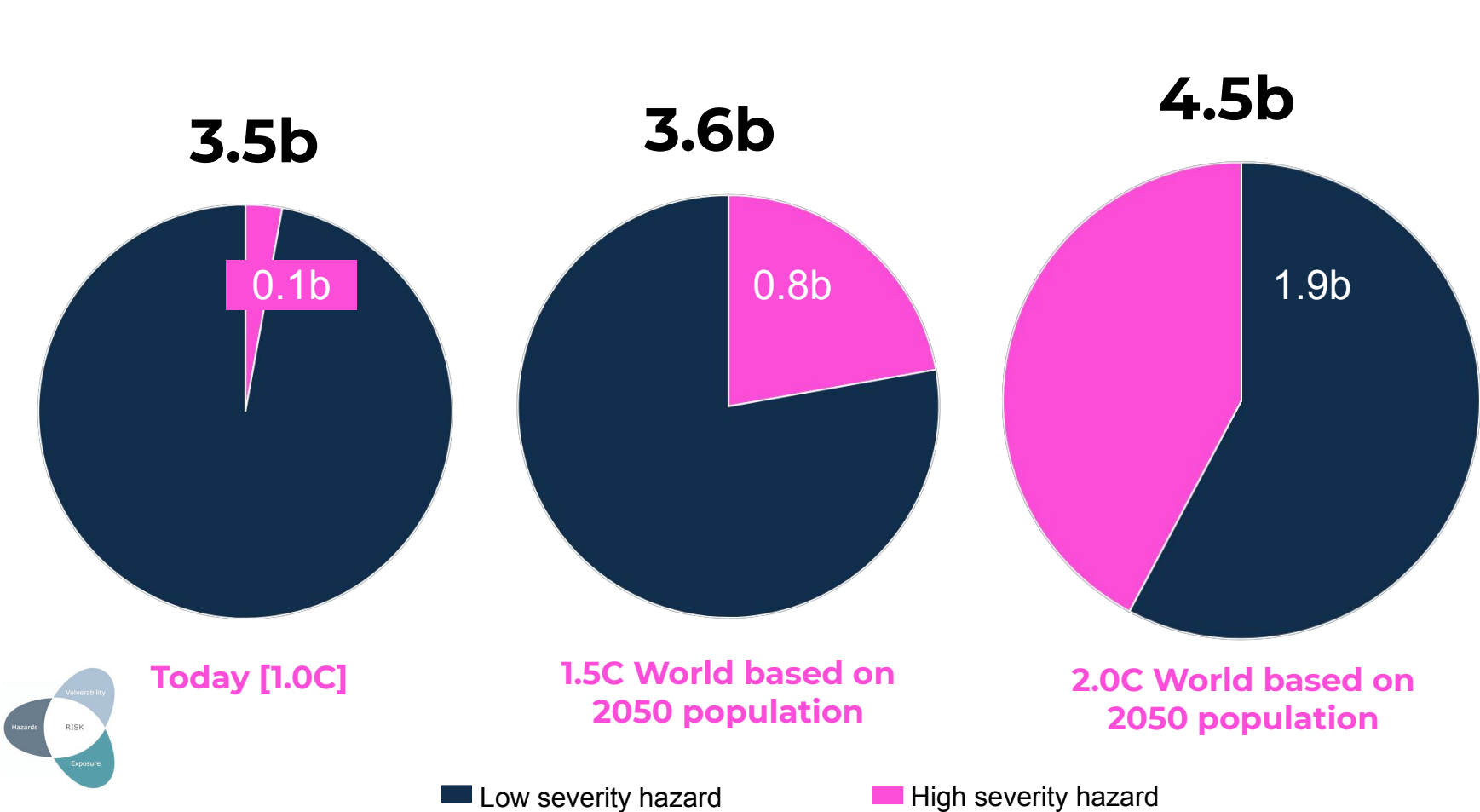


# With 800 million to 1.9 billion people exposed to severe hazards in 2050, a major resilience building challenge remains



PRELIMINARY

Total population exposed to hazards globally, billions



800m

People exposed to a severe climate hazard in a 1.5C world, relative to 100m today

1.1b

People protected from exposure to high severity hazards if warming is reduced from 2.0C to 1.5C





# Resilience reduces overall risk from vulnerability and results in increased adaptation to climate change



## Vulnerability

A climate-induced event or trend that may cause **damage** to vulnerable human life, property, infrastructure, livelihoods, service provision, ecosystems and environmental resources



## Resilience

The **capacity** of social, economic and environmental systems **to cope** with a hazardous event or trend or disturbance, **responding or reorganizing** in ways that maintain their essential function, identity and structure while also **maintaining the capacity for adaptation, learning and transformation**. (IPCC, 2018: Global Warming of 1.5°C).



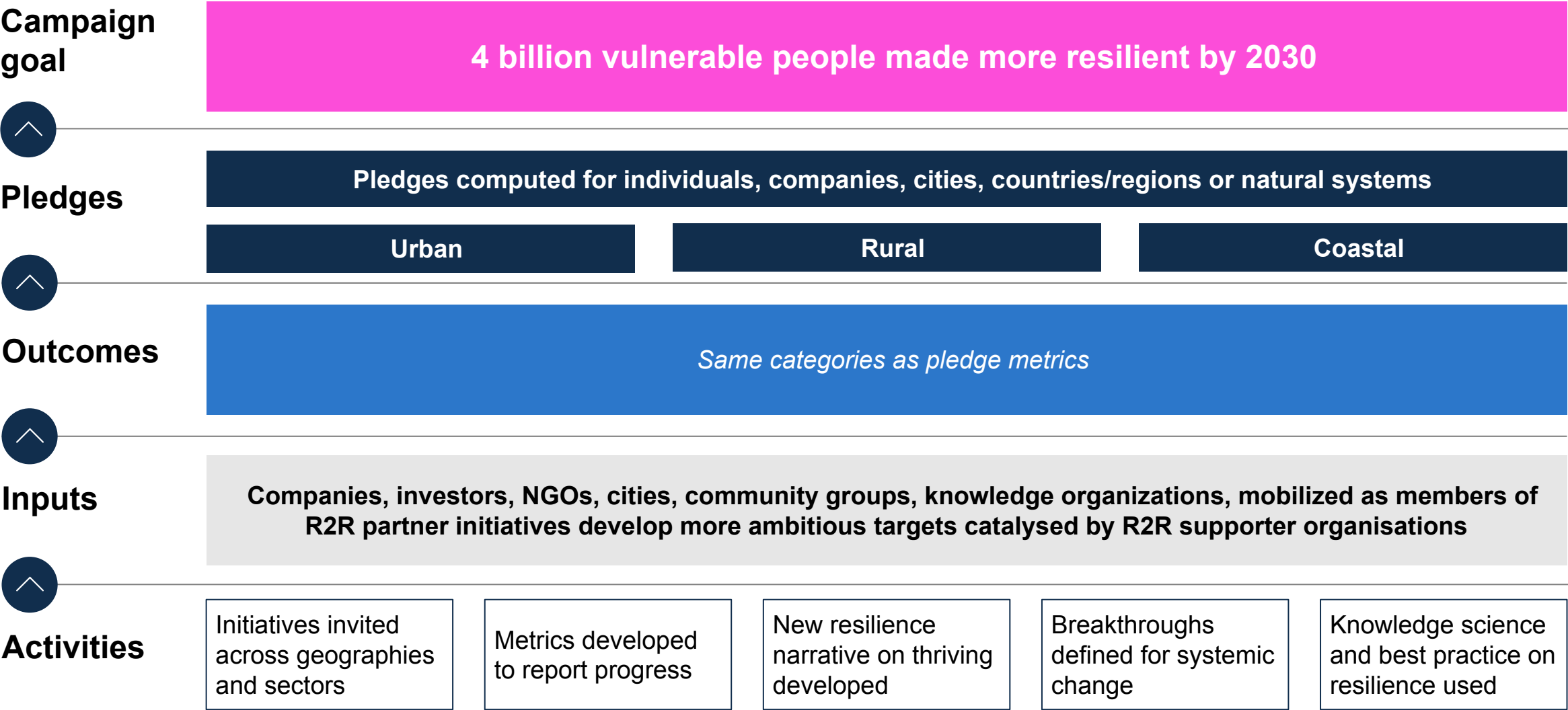
## Adaptation

The process of **adjustment to actual or expected climate** and its effects to moderate or avoid harm or exploit beneficial opportunities



**Definitions draw from a range of sources** including IPCC, World Bank, OECD and USAID

# The campaign aims to increase the resilience of 4 billion vulnerable people by 2030



# Pledges are reported across the Resilience Dashboard up to 2030, with validated outcomes reported annually



ILLUSTRATIVE 2030 DASHBOARD

## Exposure

3.9b<sup>1</sup>

Need: people  
exposed to climate  
change hazards

## Pledges

2.2b

Pledge: people  
with increased resilience

## Outcomes

1.4b

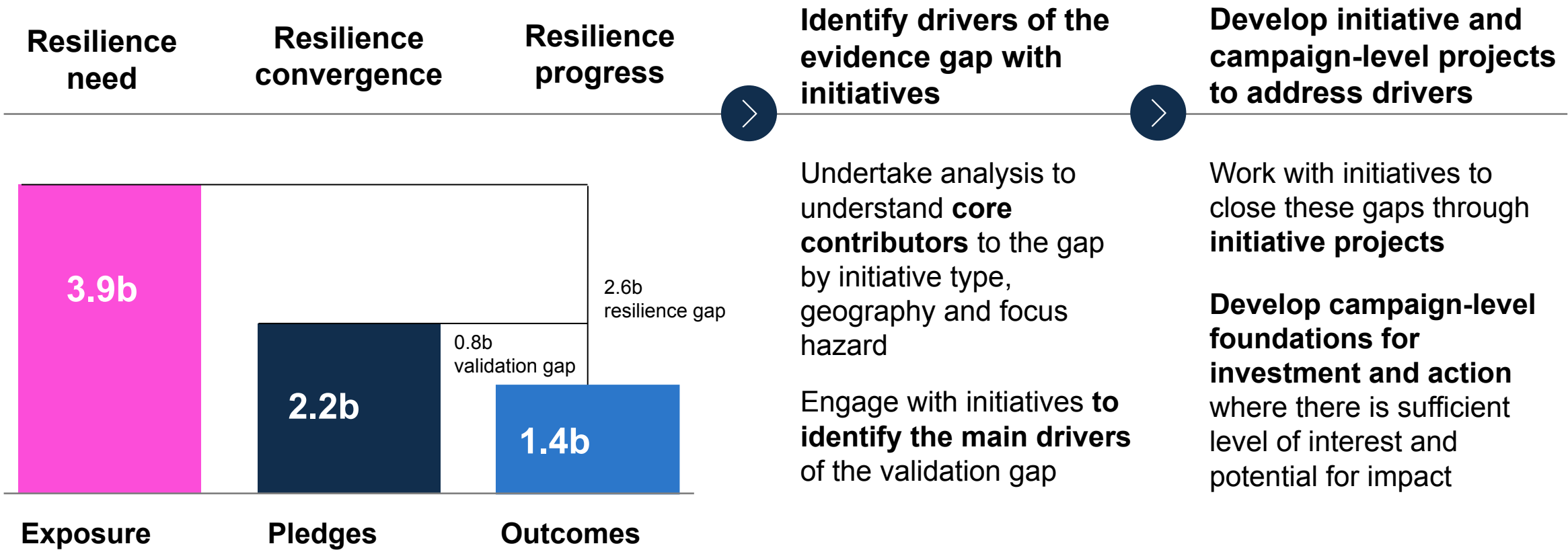
Outcome: people with  
**validated** increased  
resilience

<sup>1</sup> 3.9bn in a 1.5C world in 2030, according to analytics workstream

# The campaign uses the gaps between need, pledges and validated outcomes to assess the resilience gap



ILLUSTRATIVE 2030 DASHBOARD



# Contents

1. Context and objectives

**2. Our metrics**

3. Our methodology

4. Further guidance

# The campaign metrics offer a way to track resilience-building action by member initiatives



## Enable ambitious campaign goals to mobilise action

Metrics that allow for practitioners, researchers, businesses and investors to report their outcomes



## Record and track initiative pledges and outcomes

Reporting that feeds into a dashboard showing total pledges commitment and outcomes to-date



## Identify gaps to be filled by new and existing initiatives

Segmented by hazard type, geography (country/region), and other characteristics to identify key resilience gaps



## Ensure reliable and credible data to safeguard impact

Sufficiently broad to enable wide adoption whilst ensuring a minimum threshold of data quality



Ability for **impact beyond the campaign** by laying the foundation for a **widely adopted measurement framework** that supports engagement by businesses, investors and other key actors

# The Metrics Framework addresses critical challenges to measuring resilience...



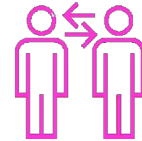
## Key challenges in measuring climate resilience

**No consensus on definitions of resilience** or other key concepts such as adaptation with numerous versions being used by different actors

**Resilience is a complex, multifaceted concept** covering a range of hazard types, socioeconomic circumstances and units of engagement

**No universally agreed measurement approach** for resilience or attributing resilience to project or programme activities or policy support

**Significant barriers for non-specialist actors (esp. the private sector)** in effectively measuring resilience and adaptation



## Framework design requirements

**High-level metrics** that accommodate multiple definitions and the full range of initiative activities

**Ability to capture outcome granularity**, e.g. on hazards and geographies, where initiatives have this data

**Inclusive outcome measurement process** that allows all initiatives to engage with the major outcome target

**Data quality approach that allows non-specialist or low-capability actors to participate** whilst ensuring data quality and credibility of impact

# ...but does not aim to cover all fundamental gaps in the climate resilience measurement landscape



Key functions the metrics will not provide

## The R2R metrics do not...

Provide an **exhaustive list of climate resilience metrics** underneath each **high-level outcome**

Aggregate **depth of resilience** across initiatives

Act as a **policing mechanism or central authority** on resilience reporting



# The framework has been developed through interviews with 25+ experts and initiatives...



## Framed the metrics use case

Literature review including **case-studies of 11 frameworks** and a **metric landscape mapping**

Scoping of R2R campaign metric requirements

Identification of best practices and key challenges in the measurement of climate resilience

Developed list of guiding design principles



## Developed metrics

**Interviewed 25+ experts and initiative members** including investors, business alliances, practitioners and academics

Produced and tested design choice hypotheses through follow-up meetings

Finalised design choices and developed metrics



## Testing with initiatives

**Road-tested metrics with 11 initiative members** representing a broad range of initiative types

Surveyed first batch of 21 initiatives

Iterated metrics framework based on feedback



## Further Iteration

**Convened ~12 member Methodological Advisory Group (MAG)** to iterate and validate metrics

Working group led by IIED and the University of Maryland, including some initiative representatives to advise on deployment of the framework



Completed

In progress

# ...and draws on a large pool of existing thought and practice



The range of approaches used to capture existing resilience measurement methods, practice and learnings

## Landscape mapping

**Landscape mapping of ~60 organisations** to understand the typology of actors, their reporting capabilities and practices including



## Measurement framework case-studies

**Review of 10+ initiative and initiative member reporting systems including:**

- InsuResilience Global Partnership
- Zurich Flood Resilience Alliance
- Global Resilience Partnership
- Global Covenant of Mayors

**Review of 15+ widely adopted programme and country-level measurement frameworks including:**

- Tracking Adaptation and measuring Development (TAMD)
- UNDP's Community-based Resilience Assessment (CoBRA)
- DFID Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED)
- The Notre Dame Global Adaptation Initiative (ND-GAIN)
- ISO Climate Change Adaptation standard
- European Environment Agency Adaptation scoreboard



## Best practice reports

**Input from 20+ additional best practice reports and literature reviews**

- WASP (2021) UNEP Adaptation Gap Report
- Global Center on Adaptation (2020) State and Trends in Adaptation Report
- LSE (2019) Beyond simplistic metrics: assessing global progress on adaptation to climate change
- Climate Policy Initiative (2019) Global Landscape of Climate Finance
- ODI (2016) analysis of resilience measurement frameworks and approaches

# The framework captures initiative results through input, outcome and pledge metrics



	Inputs	Outcomes	Pledges
Description	Resources used by an initiative to undertake climate resilience activities	Products, goods and services generated by initiative activities	Increased climate resilience due to the provision of outcomes
Example of metric	# Active projects, programmes or policy support	# Individuals accessing goods and services	# Individuals with increased resilience
Example of initiative reporting	<b>5</b> Projects providing crop insurance to small-holder farmers	<b>10k</b> Small-holders accessing crop insurance	<b>10k</b> Small-holder farmers with increased resilience



**Resilience captured at an outcome level,** rather than as an impact

This encourages initiatives to **pledge and directly report resilience based on outcomes**

*Increased resilience is initiative and context specified*

# The metrics provide five ways to track resilience-building pledges and outcomes, all focused towards human resilience

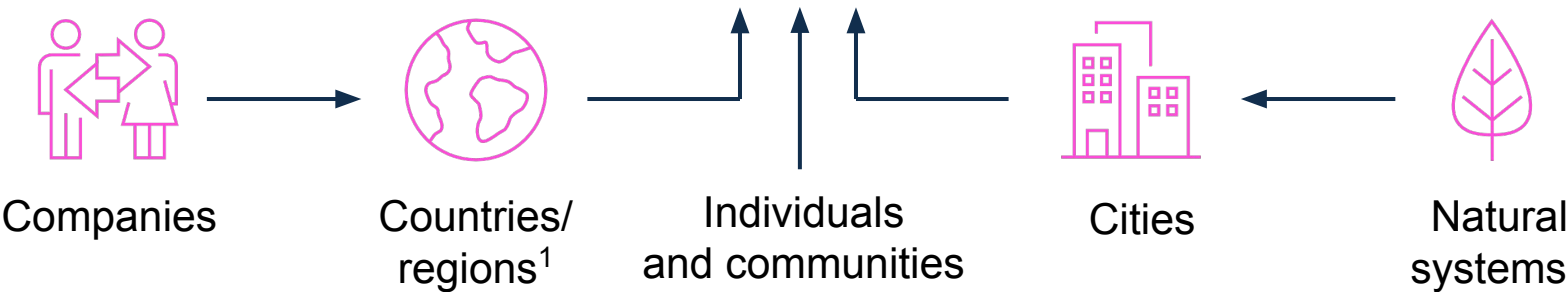


Human-centric flagship outcome target



**A1 Resilient individuals**

Achieved through engagement at different levels and systems



Further captured by additional outcome metrics

**A2 Resilient companies**

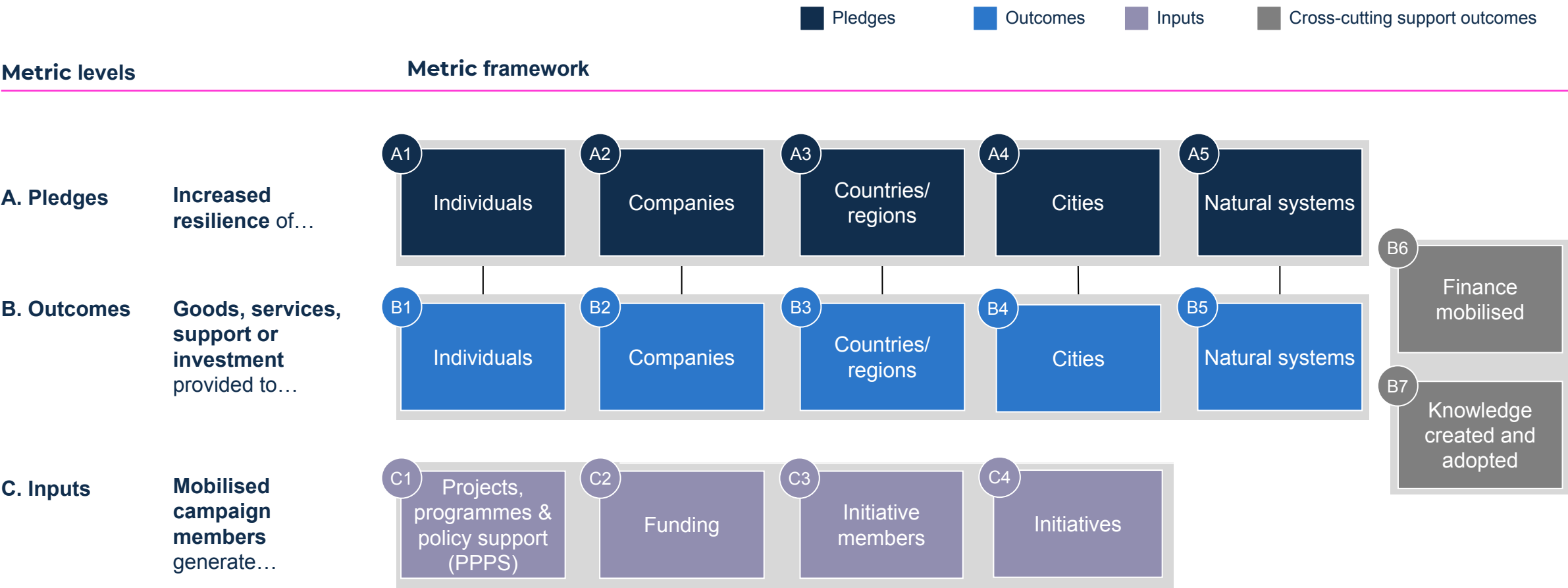
**A3 Resilient countries**

**A4 Resilient cities**

**A5 Resilient natural systems**

1: Populations not aggregated into A1 at country/region-level activities

# The pledge, outcome and input metrics form a framework providing multiple reporting options for initiatives



**Initiatives will only report on relevant metrics in the framework** with all initiatives able to report against at least one outcome metric

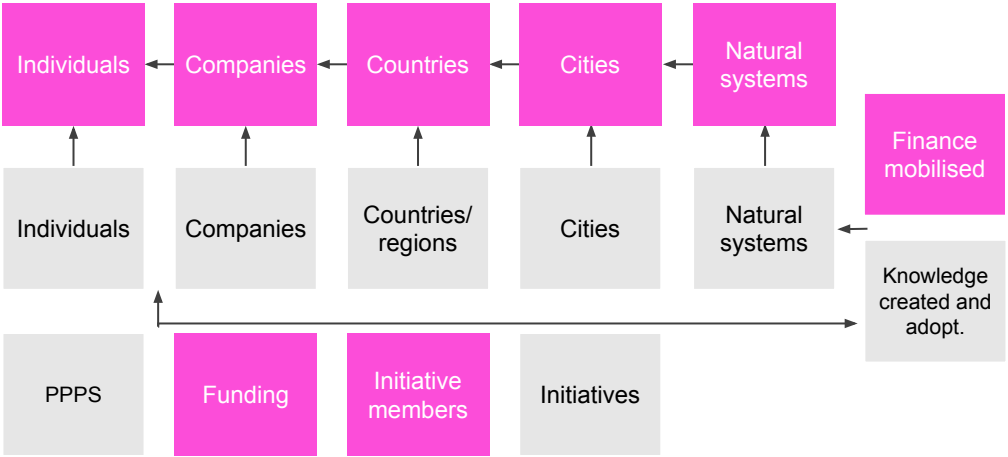
1. Additional metrics will be captured as outlined in later slides

# The campaign will publicly report selected metrics through a high-level dashboard



■ Dashboard metric

## Dashboard elements of the framework



- 1. Segmented further by gender and other characteristics
- 2. Segmented further by public and private finance



## Proposed dashboard metrics with illustrative figures

ILLUSTRATIVE 2030 FIGURES

- 4B** A1. **People**<sup>1</sup> with increased resilience
- 10m** A2. **Companies** with increased resilience
- 150** A3. **Countries** with increased resilience
- 5k** A4. **Cities** with increased resilience
- 200k** A5. **Hectares of natural system** with increased resilience
- \$50B** B6. **Finance**<sup>2</sup> **mobilised** by initiatives and breakthroughs
- \$20B** C2. **Finance deployed** into climate resilience initiatives
- 5k** C3. **Organisations** signed up across R2R initiatives

# Contents

1. Objectives
2. Our metrics
3. Our methodology

- **Definitions**

- Outcome validation
4. Further guidance

# The campaign scope for initiatives included in the campaign and the types of activities captured



Captured by the framework



Not captured by the framework and not included in the campaign

## Initiative / project focus



### Project focused on resilience

Resilience-building focus, whether targeting individuals, communities, regions, natural systems or broader institutions



### Project with resilience embedded

Embedded resilience-building activities that reduce identified vulnerabilities alongside other potential development benefits



### Project not targeting resilience

A development focused project, programme or policy support that increases local incomes, reduces poverty, or improves infrastructure or services but does not explicitly target climate shocks or stresses

## Resilience scope



### Direct resilience

An individual, company, city, country or natural system directly targeted to receive goods or services to increase resilience

*E.g. smallholder farmer receiving crop insurance and their household*



### Indirect resilience

An individual, company, city, country or natural system not targeted, but as a result of a project, programme or policy support, indirectly experience increased resilience

*E.g. individual consuming food produced by the smallholder farmer receiving crop insurance*

## Resilience longevity



### Sustained resilience

Transformational adaptation which more permanently alters structural conditions and processes

*E.g. diversification of crops and alternative lifestyles to cope with droughts; or changing the energy matrix to renewable energy*



### Active resilience

Adaptation contingent upon an ongoing project, programme or policy support



*E.g. crop insurance providing protection for the period of service provision*



# The campaign focuses on targeted support activities when capturing individual resilience




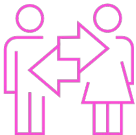



■ Targeted support where individual people or households are identified and aware they are receiving

Support level	Description	Example	Reporting implication
High	High levels of individualised support	<ul style="list-style-type: none"> <li>• Agricultural extension services</li> <li>• Training of individuals in communities to develop emergency plans</li> </ul>	 <p><b>Project<sup>1</sup> can report against individual outcomes</b> alongside any other unit of operation (e.g. Company, city, natural systems)</p>
Medium	Medium level of individualised support or direct community engagement	<ul style="list-style-type: none"> <li>• Information services such as a flood warning or weather forecast by text</li> <li>• People within catchment area of flood defences</li> <li>• People living in a community where other members have been trained in emergency flood response</li> </ul>	
Low	Low levels of individualised support	<ul style="list-style-type: none"> <li>• People within the administrative area of a ministry or local authority receiving capacity building support</li> <li>• Population of a country with a strengthened weather or climate monitoring</li> </ul>	 <p><b>Project cannot report against individual outcomes</b> but can report against the higher level units</p>

1. Includes programmes and policy support activities  
Source: USAID guidance

# Outcome unit definitions and approaches for estimating number of individuals reached







	 <b>Individuals</b>	 <b>Companies</b>	 <b>Countries/regions</b>	 <b>Cities</b>	 <b>Natural systems</b>
<b>Definition</b>	Individuals and their households	Entity with 2+ employees engaged in commercial activity	Country where regional or national-level project is taking place	>50k inhabitants in adjoining grid cells >1.5k inhabitants / km <sup>2</sup>	A closed or open natural environment that provides resilience benefits to the local population
<b>Approach for estimating number of individuals reached<sup>1</sup></b>		Direct employees or national / sub-national average number of employees per business	<b>Not allowing individuals to be reported</b> from national or regional level projects	Whole city population for cities >500,000, % must be est. for cities with larger populations	Est. population in close proximity to, or whose livelihoods rely on the natural system
<b>Additional information</b>		<ul style="list-style-type: none"> <li>Includes informal and formal enterprise</li> <li>Includes MSMEs and MNCs</li> <li>Includes recipients and providers of climate resilience goods and services</li> </ul>	<ul style="list-style-type: none"> <li>Includes regional and national level projects</li> <li>Include policy, government capacity building and infrastructure projects</li> </ul>	<ul style="list-style-type: none"> <li>Includes secondary, primary and capital cities</li> </ul>	<ul style="list-style-type: none"> <li>Includes ocean and land based systems</li> <li>Includes man-made / managed natural systems such e.g. farms or managed woodland</li> </ul>

1. Recommended approach if not directly counting individuals  
Source: World Bank, ILO

# To accurately measure impact, the R2R metrics offer guidance to minimise different types of double counting



Double-counting examples			Campaign approach
	<b>Individual</b>	Multiple initiatives providing different services to the same individuals and counting impact	Accept double counting as it is unfeasible to address it and might disincentivise providing multiple levels of resilience-building support to the same population; but reporting must be hazard specific
	<b>Company</b>	Multiple initiatives aggregating the same company's impact	<b>Small and medium-sized enterprises (SMEs):</b> apply same logic as individual-level of double counting <b>Large companies / multinational companies (MNCs):</b> Master list of companies against which results may be reported Projects to be labelled by geography/hazard type, with briefs on services to flag duplication
	<b>City</b>	Multiple initiatives providing services to the same city and counting the full population	Master list of cities with official population figures to avoid number of individuals counted per city exceeding city population
	<b>Organisation</b>	Multiple initiatives aggregating the same organisation's impact	Master list of organisations against which results may be reported

# R2R definition glossary (1/2)



Concept	Definition	Source
<b>Resilience</b>	The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation.	IPCC 2018 Report on Global Warming of 1.5°C [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)].
<b>Risk</b>	A climate-induced event or trend that may cause damage to human life, property, infrastructure, livelihoods, service provision, natural systems and environmental resources	IPCC (2019) Reports Annexes
<b>Hazard</b>	A climate-induced event or trend that may cause damage to human life, property, infrastructure, livelihoods, service provision, natural systems and environmental resources	IPCC (2019) Reports Annexes
<b>Exposure</b>	The presence of people, assets or natural systems in an area where hazards may occur	IPCC (2019) Reports Annexes
<b>Vulnerability</b>	The propensity of a population, asset or natural system to be adversely affected as a result of sensitivity and capacity to cope and adapt	IPCC (2019) Reports Annexes
<b>Adaptation</b>	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities	IPCC (2019) Reports Annexes
<b>Adaptive capacity</b>	Ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences	IPCC (2019) Reports Annexes
<b>Sensitivity</b>	The degree to which a system, asset, or species may be affected, either adversely or beneficially, when exposed to climate variability or change or geophysical hazards	World Bank (2021) Climate & Disaster Risk Screening Key Terms

## R2R definition glossary (2/2)



Concept	Definition	Source
<b>Direct resilience</b>	An individual, company, city, country or natural system directly targeted to receive goods or services to increase resilience	UK Government (2018). Number of people supported to better adapt to the effects of climate change as a result of ICF
<b>Indirect resilience</b>	An individual, company, city, country or natural system not targeted, but as a result of a project, programme or policy support, indirectly experience increased resilience	UK Government (2018). Number of people supported to better adapt to the effects of climate change as a result of ICF
<b>Sustained resilience</b>	Transformational adaptation which more permanently alters structural conditions and processes	IPCC (2014b) Adaptation Needs and Options
<b>Active resilience</b>	Adaptation contingent upon an ongoing project, programme or policy support	IPCC (2014b) Adaptation Needs and Options
<b>City</b>	>50k inhabitants in adjoining grid cells >1.5k inhabitants / km <sup>2</sup>	World Bank (2020) How do we define cities, towns, and rural areas?
<b>Company</b>	Entity with 2+ employees engaged in commercial activity undertaken for gain	OECD (2006) Glossary of Statistical Terms
<b>Country</b>	A territory with a defined population and a designated government	World Bank (2021) Country Classification
<b>Region</b>	Regions are at or near the Admin 1 levels within each country; these are often states or provinces	IPCC (2014b) Adaptation Needs and Options
<b>Natural system</b>	A natural environment or ecosystem experiencing increase resilience as a result of protection or regeneration, and in turn, providing resilience benefits to individuals	IPCC (2014b) Adaptation Needs and Options

# What are resilience actions?

---



## Resilience

---

***Increased resilience** is initiative and context specific, and the Race to Resilience campaign is not specifying how to define it. Each initiative can have its own Theory of Change for climate resilience.*

***However, for metric collection, compilation and aggregation purposes, and to be in a position to get meaningful insights from the initiative metrics, we are asking initiatives to assign their outcome-related actions into:***

1. *The nine Marrakech Partnership Climate Actions; and*
2. *The ten IPCC AR5 Actions typology.*



# Initiatives report the Marrakech action(s) aligned to their projects, programmes or policy support, and



Marrakech action		AR5 WGII category and subcategory correspondence		
1	Climate risk vulnerability assessments, disclosure & monitoring	2	Structural/physical	Technological
		6	Social	Informational
2	Early warning systems & early action	2	Structural/physical	Technological
		6	Social	Informational
3	Preparedness, contingency plans/ emergency response	6	Social	Informational
4	Climate risk governance & capacity building	9	Institutional	Laws and regulations
		10	Institutional	Government policies and programs
5	Nature-based solutions to reduce risks	3	Structural/physical	Ecosystem-based
6	Climate proofing infrastructure & services	1	Structural/physical	Engineered and built environment
		4	Structural/physical	Services
7	Risk transfer: Insurance & social protection	8	Institutional	Economic
8	Sharing knowledge & best practice on climate risk management	5	Social	Educational
		7	Social	Behavioral
9	Volume, quality and access of public and private finance	8	Institutional	Economic

Sources: Marrakech Partnership, Climate Action Pathway, Climate Resilience, [Marrakech Action Table 2020](#) (page 2) and Intergovernmental Panel on Climate Change, Fifth Assessment Report, Working Group 2, Impacts, adaptation and vulnerability, [IPCC AR5 WGII Table 14-1](#) (PDF page 13, Report page 845).



# Initiatives report the IPCC AR5 action subcategory(ies) aligned to their projects, programmes or policy support



AR5 WGII category and subcategory			Marrakech action correspondence	
1	Structural/physical	Engineered and built environment	6	Climate proofing infrastructure
2	Structural/physical	Technological	1	Climate risk vulnerability monitoring
			2	Early warning systems & early action
3	Structural/physical	Ecosystem-based (a)	5	Nature-based solutions to reduce risks
4	Structural/physical	Services	6	Climate proofing services
5	Social	Educational	8	Sharing knowledge & best practice on climate risk management
			1	Climate risk vulnerability assessments, disclosure
6	Social	Informational	2	Early warning systems & early action
			3	Preparedness, contingency plans/ emergency response
7	Social	Behavioral	8	Sharing knowledge & best practice on climate risk management
			7	Risk transfer: Insurance & social protection
8	Institutional	Economic	9	Volume, quality and access of public and private finance
9	Institutional	Laws and regulations	4	Climate risk governance & capacity building
10	Institutional	Government policies and programs	4	Climate risk governance & capacity building

Sources: Marrakech Partnership, Climate Action Pathway, Climate Resilience, [Marrakech Action Table 2020](#) (page 2) and Intergovernmental Panel on Climate Change, Fifth Assessment Report, Working Group 2, Impacts, adaptation and vulnerability, [IPCC AR5 WGII Table 14-1](#) (PDF page 13, Report page 845).



# Pledges deep-dive: primary and secondary metrics



Flagship metrics around projects, programmes or policy support (PPPS) that deliver increased resilience

	A1	A2	A3	A4	A5
	Individuals	Companies	Countries/ regions	Cities	Natural systems
Description	Individuals receiving support from PPPS	Companies receiving support from PPPS	A country where a regional or national-level PPPS has been put in place	A city where a targeted PPPS has been put in place	A natural system where a targeted PPPS has been put in place
Primary metric	# Individuals with increased resilience	# Companies with increased resilience	# Countries with increased resilience	# Cities with increased resilience	# Hectares of land or ocean restored or protected
Secondary metrics mandatory classifications	Hazard focus				
	Geography (country, región Admin 1, city, natural system)				
	Marrakech and AR5 action proxy classification				
Other suggested segmentations	Means of implementation (capacity-building, technology transfer, finance)				
	Type of good or service		Type of support or investment		
	Level1, gender, socioeconomic level	Sector, size (employees)	Admin 2+ level, urban/rural	Neighborhood, district, commune	Land, ocean, basin

# Outcomes deep-dive: primary and secondary metrics



Outcome metrics are converted into outcome metrics through a validation approach outlined in pp. 32 - 40

	B1	B2	B3	B4	B5
	Individuals	Companies	Countries/ regions	Cities	Natural systems
Description	Same description as pledge metrics				
Primary metric	# Individuals receiving goods or services	# Companies receiving goods or services	# Countries receiving support or investment	# Cities receiving support or investment	# Hectares of land or ocean receiving support or investment
Secondary metrics produced by segmentation	Same data segmentation as pledge metrics				

# Cross-cutting outcomes deep-dive: primary and secondary metrics



Description	<div>B6</div> <div>Finance mobilised</div>	<div>B7</div> <div>Knowledge created and adopted</div>		
	Additional funding catalysed by the initiative for climate resilience activity, either delivered by the initiative or through another channel	Knowledge outcomes that support the design, delivery and/or measurement of climate resilience		
		Created	Adopted	
		Knowledge outcomes that are produced, peer-reviewed and then made publicly available	The referenced use of a knowledge outcome by an initiative or other actor to improve the design, delivery and/or measurement of climate resilience activities	
Primary metric	USD financing mobilised by initiatives	# Peer-reviewed knowledge pieces reviewed	# Identified uses of knowledge piece	
Secondary metrics produced by segmentation	Hazard focus			
	Instrument	Type of knowledge outcome	Type of organization benefitting from knowledge partnership	
	Source			
	Public/private			

# Inputs deep-dive: primary and secondary metrics

	C1	C2	C3	C4
	Projects, programmes or policy support (PPPS)	Funding	Initiative members	Initiatives
Description	Initiative member PPPS aligned with at least one of the 9 Marrakesh actions	Funding allocated by members into initiative-aligned PPPS or raised and deployed directly by the initiative	Organisations signed up and participating in an initiative	A membership organisation focused on climate resilience objectives and signed up to the campaign
Primary metric	# PPPS captured by initiatives	USD funding allocated for initiative activities	# Members signed up to initiatives	# Initiatives signed up to the campaign
Secondary metrics produced by segmentation	Hazard focus	Specific PPPS	Hazard focus	
	Geography	Activity type	Geography	
	Marrakech and AR5 action		Member type (business, NGO, investor, etc.)	Initiative type
	Type of Good or service		Level of participation	Service provided to members
	Level(s) of focus			

1. See pp. 35-36 for more

# Examples of project reporting



	Inputs	Outcomes	Pledges
Individuals	8 projects providing low-cost, disaster-resistant improvements to housing in disaster prone areas	25,000 individuals with improved, disaster-resistant housing units	25,000 individuals with increased resilience
Companies	5 projects providing securitized bonds to private industrial operators in coastal areas	35 private businesses accessing finance to invest in sustainable coastal infrastructure and nature-based solutions	35 private businesses with increased resilience 275 hectares of coastal area with increased resilience
Countries	3 projects climate-proofing a country's national grid	1 country with climate-proofed national grid	1 country with increased resilience 3M people with increased resilience
Cities	6 projects conducting risk monitoring & water management across regional river basins	3 cities with reduced demand for water and reduced risk of wildfires	3 cities with increased resilience 2M people with increased resilience
Natural systems	12 projects creating a conservation area in vulnerable forestland	32,000 hectares of forest land protected	32,000 hectares of forest land with increased resilience

# Contents

1. Objectives
2. Our metrics
3. Our methodology
- Definitions
- **Outcome validation**
4. Further guidance

# Initiatives report outcomes against pledges using a validation process



## Relevant action

Initiatives assess activity relevance by assigning them to one or more of the Marrakesh or AR5 Actions

Alignment to the Marrakesh or AR5 Actions infers an evidence base that these activities will build resilience in the recipient group



## Outcome

Outcomes from relevant actions are assumed to increase resilience and will be reported as outcomes



## Validated outcome

Initiatives will be asked to report validated outcomes by validating:

1. The link to the Marrakesh or AR5 action
2. The delivery and adoption of actions, and
3. The resilience outcome of the recipient group

Note: the third step is encouraged but not a requirement for reporting results



# Initiatives validate outcomes through a variety of approaches

Validation steps	Requirement	Project example	Validation method
1 <b>Validate underpinning theory</b>	Evidence that the initiative activity(ies) align with one or more Marrakech or AR5 action, or your own theory of change	Theory of change that includes a recognised definition of climate resilience	Theory of change peer-reviewed within the campaign and/or by an independent evaluator
2 <b>Validate distribution of actions</b>	Evidence of distribution, and adoption where relevant, of goods and service	Evidence of built infrastructure	Formal certification (including contracts) and/or independent review
3 <b>Validate resilience outcome as a result of actions</b>	Evidence of perceived or actual resilience after distribution of goods and services	Baseline and end-line surveys for neighbouring community	Survey captures a perceived or actual increase in resilience





# Initiatives are required to undertake Steps 1 and 2, and develop capabilities to undertake Step 3

● Required    ● Encouraged

## Validation steps






## Requirements

- 1 **Validate underpinning theory**
- 2 **Validate distribution of actions**
- 3 **Validate resilience outcome as a result of actions**

- **All initiatives will be expected to undertake Steps 1 and 2** to validate activity links to the Marrakech or AR5 Action and
- Initiatives already undertaking step 3, validating resilience outcomes, as part of existing commitments (e.g. receipt of ODA funding) will be encouraged to incorporate this into their R2R reporting
- Initiatives not yet undertaking step 3, validating resilience outcomes, will be invited to provide a **pathway to building this capability within a 2-year window**
- **The R2R campaign will support this pathway** through a learning platform and match-making with other members to build capacity

# The validation approach balances inclusivity and accuracy of reporting outcomes



	 Check for relevance of initiative activity	 Actions reported as outcomes	 Outcomes validated and reported
Action	Accepted initiative reports on activities that align against the <i>Marrakech</i> or <i>AR5 actions</i>	Initiatives with aligned activities report their outcomes against the R2R Metrics Framework	Relevant actions are assumed to increase resilience and will be validated as outcomes through a variety of accepted approaches
Example	<b>Relevance check:</b> Crop insurance aligned to <i>7: Insurance and Social Protection</i>	<b>Outcome:</b> initiative provides crop insurance to 10,000 small-holders	<b>Validated outcome:</b> 10,000 small-holder farmers with increased resilience
Metric reported against	C1. Number of initiative projects, programmes or policy support	B1. Individuals receiving goods and services	B1. Individuals with increased resilience

*All steps will be self-reported by initiatives using the reporting template, with the campaign undertaking random spot-checks to review level of adoption*

# Contents

1. Objectives
2. Our metrics
3. Our methodology
- 4. Further guidance**

# The campaign provides additional guidance to ensure data quality whilst retaining a feasible initiative reporting requirement



Aspect	Criteria	Mandatory	Advisable
Initiative focus	A publicly documented initiative aim is to reduce vulnerabilities by engaging in resilience-building activities	✓	
	Initiative member activities align with at least one of the 9 Marrakesh and 10 AR5 actions	✓	
	Basic resilience attributes are considered: e.g. Diversity, Connectivity, Modularity, Adaptive Learning, Inclusivity, Equity		✓
Results measurement	The initiative has a Theory of Change and metrics capturing resilience of individuals or one of the additional units (company, country, region, city, natural systems)	✓	
	The initiative supports members to assess climate resilience outcomes through qualitative and quantitative methods		✓
	Initiatives engage in annual reviews to validate assumptions used to convert actions to outcomes	✓	
Community & risk management	Initiatives engage with local communities when testing their assumptions or collecting data	✓	
	The initiative or member organisation conducts an ongoing risk assessment to identify maladaptation risks		✓
	The project, programme or policy support includes adaptability/flexibility in case of a surprise of failure or contingent planning		✓

# Technical definitions specifically related to metrics:

## Risk as a function of hazards, exposure and vulnerability



**Risk implies an assessment of the likelihood of hazards.**

**Hazards are negative shocks**, i.e. shocks with damaging impacts or negative externalities.

- Hazards can be exogenous/extrinsic (droughts, tornadoes); endogenous/intrinsic (water shortage due to a facility failing); or both (water shortage due to the structural mismanagement of water resources).
- Hazards can be acute or chronic disturbances.

**Likelihood refers to hypothesis, i.e. events that are neither exclusive nor exhaustive** (a storm, extreme heat).

- In contrast, probability refers to possible events, i.e. to events that are mutually exclusive and exhaustive (living versus dying, throwing a dice).
- Likelihood is a combination of size, frequency and intensity of hazards.

**There is no risk without exposure.** Exposure can imply **systemic** or **idiosyncratic** risks.

- Exposure to a rise of temperatures is systemic, i.e. global, even if unequal. Cf. Race to Zero.
- Exposure to the different impacts of this rise in temperature (droughts, rising sea levels) is idiosyncratic, diversified. Cf. Need Analytics.

**Vulnerability can be defined as the likelihood of not being resilient**, given the exposure to specific hazards.

- Resilience, and therefore vulnerability, are quantitative, multidimensional metrics.
- Adaptation on the other hand is the assessment of vulnerability above a certain threshold, a qualitative, ordinal or even dichotomic type of indicator.
- The Race to Resilience campaign and initiatives contribute with actions aimed at increasing the likelihood of being resilient.

# Technical definitions related to metrics:

## Resilience metrics in the context of adaptation



In the area of **mitigation**, which addresses the **causes** of climate change, the emissions of GHG, the impact of land use in carbon capture and storage, and the rise in global temperatures are considered to be **both extrinsic and intrinsic** to countries and agents.

On the contrary, in the area of **adaptation**, which addresses the **consequences** of climate change, hazards are often considered extrinsic/exogenous, **while resilience is considered intrinsic/endogenous**.

**Regarding vulnerability, three distinctions can be made** for the Metrics Framework purpose:

- **Structural conditions**: Autonomous, inherent, innate conditions of the system that contribute positively or negatively to the resilience of the components of the system. They are usually measured with hard data: social development indicators, GDP per capita, education, remoteness, governance.
- **Acquired conditions**: Conditions gained from the exposition to previous disturbances, such as experiential learning, social collective memory, social learning, or built due to local circumstances, such as social capital, social cohesion, social responsiveness. They can not be easily captured with hard data, but they can be proxied with soft data from surveys.
- **Responsive conditions**: Response and coping capacity to disturbances. These conditions are associated with local (coping ability) and policy responses, preparedness, and other policy conditions and outcomes (savings, emergency funds, political stability).

# Technical definitions related to metrics: On sources of information for risk and resilience

---



**“Risk” implies measurable uncertainty** (risk of droughts, floods, sea rising, etc). In contrast, unmeasurable uncertainty is simply “uncertainty” (a meteorite falling, a plant falling from a terrace). **It makes sense to prepare and alter behaviors to confront risk**; it makes less sense to prepare for plain uncertainty.

**Climate change physical, natural and social scientists** contribute to the **understanding, assessment and measurement of hazards, exposure, and vulnerability**, regarding, for example:

- The likelihood of a rise in temperatures (this relates to Race to zero).
- The likelihood of collateral hazards due to this rise in temperature (droughts, floods, tornadoes, rising sea levels).
- The idiosyncratic (country/city/natural system/individual) exposure to any of these hazards (Risk Analytics of Race to Resilience).

**Sectoral experts and agents in the field** have the theoretical, empirical and technical tools to **pledge and implement actions leading to increased resilience**, defined as the capacity/ability of a system to confront/face/alter/react to hazards in order to reduce exposure or vulnerability, maintain basic functions and adapt to new contexts.