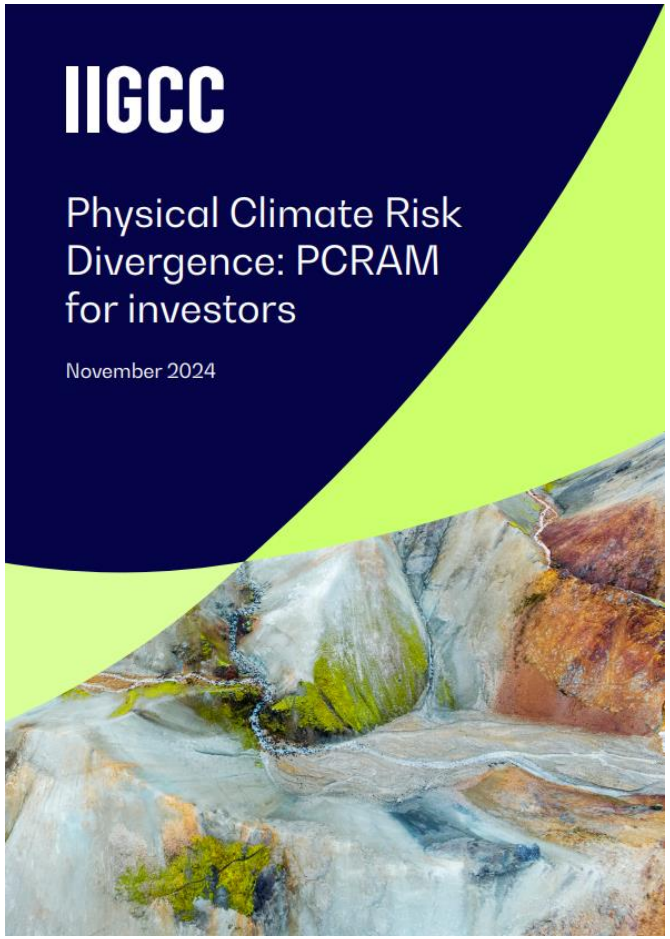
Webinar: PCRAM for investors



11 December 2024

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In addition, whilst IIGCC's vision is to support investors in understanding risks and opportunities associated with climate change and take action to address them, attendees must take care not to coordinate the strategic competitive behaviour of competing companies, whether members or competing companies.

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As a condition of participation in these IIGCC meetings, all attendees acknowledge that their participation is subject to complying fully with competition law.

Please also note that IIGCC's services to members do not include financial, legal or investment advice.

Agenda

Introduction to PCRAM for investors paper	Anne Chataigné IIGCC	10 min
Current Practices - Real assets investment value chain - Investment stages and processes	Anne Chataigné IIGCC Alex Chavarot	10 min
Integrating PRCAM alongside investment processes	Anne Chataigné IIGCC, Alex Chavarot,	10 min
How to map PCRAM with the PCR equation - Assessing baseline uncertainty - Quantifying vulnerability and resilience building - Identifying the optimum thresholds to redefine exposure	Anne Chataigné IIGCC, Alex Chavarot	10min
Q&A		20 min

Discussion paper process

Paper 1: PCRAM for investors

PCRAM for investors - This discussion paper proposes integrating the various steps outlined in the Physical Climate Risk Assessment Methodology (PCRAM) into existing investor processes

November 2024

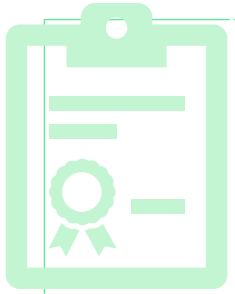
CRIF Infra guidance

PCRAM integrated in CRIF principles. Systemic impacts of PCRs and portfolio considerations. Foundational for IIGCC's Climate Resilient Investment Framework.

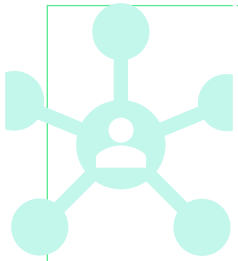
Q1 2025

> 20 in depth interviews with investor members and associate members

Paper outcomes/scope



Converging towards standardisation



Standardised PCR assessments will form the basis of IIGCC's Climate Resilience Investment Framework

Opportunities for value creation in resilience investment

The scope of this paper is **infrastructure and real estate assets**

Current practices

Real assets investment value chain

IIGCC

Actors	Time Horizon	Key Concern
Project Developers	Short term Often 2–3 yrs	• Securing financing and navigate regulatory approvals to complete construction on time and within budget
Operators (managing the asset)	Medium to Long term Often 10+ yrs	• Maximise efficiency and profitability of assets Maintain operational reliability Minimise downtime
Investors - Asset Owners (AO)	Medium to Long term Often 10+ yrs	• Ensure asset performance and diversification to meet portfolio objectives and risk tolerance Ensure long-term asset viability Fiduciary duty in line with legal and regulatory requirements
Investors - Asset Managers (AM)	Depends on strategy Often 5–7 yrs	• Ensure asset performance and diversification to meet portfolio objectives and risk tolerance Fiduciary duty in line with legal and regulatory requirements
Investors - Risk Management team	Bias to short term	• Identify, assess, and mitigate financial, operational, and regulatory risks
Investors - Sustainability team	Bias to long term	• Ensure ESG risks and opportunities are appropriately understood and managed, grounding their work in financial materiality
Investment consultants	Lie between AO and AM on horizon and concerns	• Responding to investor advisory demand
Data providers	Bias to short term	• Responding to investor demand led by regulator currently asking them for a single figure on portfolio exposure
(Re)Insurers	Policy renewal at 1 or 3 yrs	• Ensure profitability within reserving capacity and capital requirements Fiduciary duty in line with legal and regulatory requirements
Banks	Medium to Long term Often 10+ yrs	• Ensuring that loans are protected, and payments can be made Fiduciary duty in line with legal and regulatory requirements

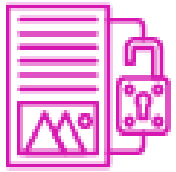
Investment stages and processes

Asset acquisition:

- Due diligence is outsourced
- Compressed transaction timelines/competitive deal environments apply pressure to streamlined analysis

Asset operations and management:

- PCR should be considered during the operational phase of assets and considered in the operating expenses (OPEX) and capital expenditure (CAPEX)



Climate & Sustainability disclosures:

- Most climate disclosures have a focus on decarbonisation
- Currently, disclosures around PCR can be rudimentary, typically focusing on a qualitative risk score or average annual loss

Refinancing:

- Long-term PCR impacts are not taken into account by lenders during their due diligence
- Lack of real incentive for borrowers, project developers and operators to embed resilience options

Exit:

- PCR is generally not priced in asset valuation; often, the seller doesn't have the incentives to justify the cost to carry out resilience investment and address the risk and, buyers are not asking for that information

Integrating PCRAM alongside investment processes

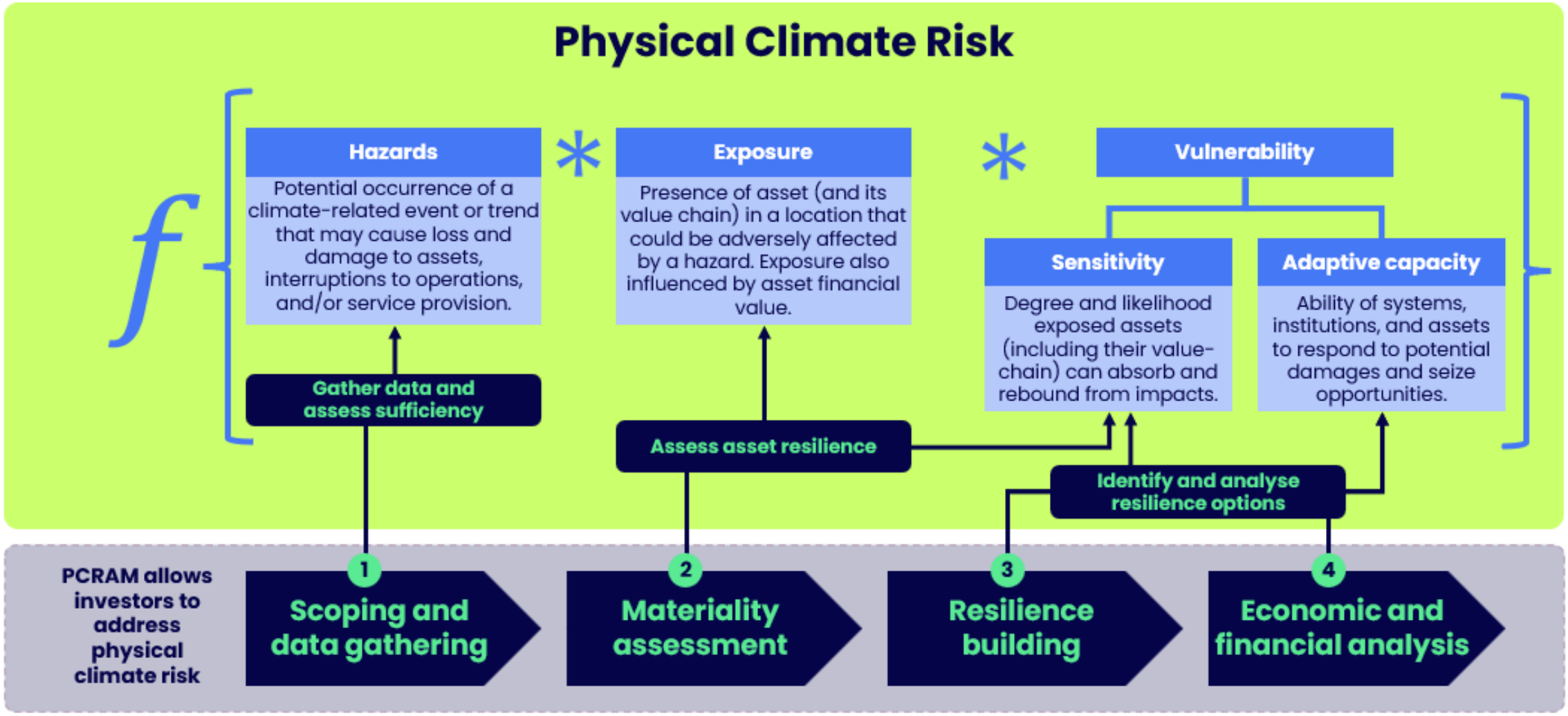
The PCRAM Process

Steps	1 Scoping and data gathering	2 Materiality assessment	3 Resilience building	4 Economic and financial analysis
Objective	Determine data sufficiency	Assessing asset vulnerability	Identifying resilience options	De-risk asset exposure to PCRs
Sub-tasks	→ Project initiation → Project definition → Data gathering and sufficiency	→ Hazard scenarios → Impact identification → Impact severity → Risk quantification	Resilience options: → Hard (Structural/Capex) → Soft (Operational/ Systems)	→ Cost/benefit analysis → IRR comparison
Outputs	→ Initial climate study → Critical components → KPI selection (the Base Case cashflow forecast)	→ Detailed climate study → List of impacts and severity by component → The Climate Case cashflow forecast	→ Repeat materiality assessment → Revised climate study for new elements → The Resilience Case cashflow forecast	→ Recommendations → Value implications
Decision gates	**Gate A** Is data good and sufficient?	**Gate B** Are PCRs material to this asset?	**Gate C** What resilience options are available for this asset?	

PCRAM Steps	Investor Processes	Benefits
Step 1: Scoping and Data Gathering	Proposal writing, Due Diligence, Risk Reviews, Stewardship and Engagement	Having PCRAM in mind during this process allows investors to interact with internal and external stakeholders with a "problem-solving" approach, avoiding a box-ticking exercise.
Step 2: Materiality Assessment	Due Diligence, Scenario Analysis, Risk Reviews, Investment Selection	Understanding asset and stakeholder KPIs helps align incentives. Integrating the impacts of chronic PCRs on cashflow forecasts and sensitivities quantifies costs to each KPI based on the risk.
Step 3: Resilience Building	Stewardship and Engagement	Engagement on future-proofing assets can enhance asset value and be value-accretive for other stakeholders. It quantifies benefits and potential returns based on the cost and efficiency of resilience measures. However, scoring resilience measures is not currently standardized. This step helps prepare Resilience Case cashflow forecasts.
Step 4: Economic and Financial Analysis	Investment Committee, Credit Proposals, Portfolio Management, Stewardship and Engagement	Traditional discounted cashflow analysis can undervalue PCR impacts (on future cashflows or discount rate). Cost-benefit analysis optimizes resilience costs across the asset lifecycle. Dynamically managing perceptions of risk helps address both internal and external environmental changes.

How PCRAM maps onto the PCR equation

How PCRAM maps with the PCR equation



PCRAM step 1: Assessing baseline uncertainty

Uncertainty drivers:

Hazard

Adaptation pathways could help investors make decisions in the face of uncertainty

Dynamic materiality.

Accounting for uncertainty.

Ability to communicate confidence levels and divergence in models.

Asset

Asset condition and characteristics are material, especially for operations and maintenance purposes

Transboundary nature of risk for infrastructure assets – models can be downscaled to provide more granularity but do not necessarily yield greater accuracy.

Split in asset data ownership

Data can be collected from various stakeholders.

Existing resilience measures might be overlooked.

Location

Access to open data of public infrastructure and real estate assets is key to understanding the local context's resilience

Open data can act as a source of truth.

Does not hinder commercial markets but enables further innovation.

PCRAM step 2 and 3: Quantifying vulnerability and resilience building

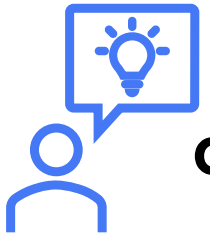
A **refined approach to vulnerability** could identify, quantify and help disclose sensitivity to PCRs relative to asset performance over time

Data availability and quality relating to asset location and exposure, is a key component of refining the assessment of asset vulnerability to hazard occurrence

The transboundary nature of PCRs requires a **systemic approach that includes both real economy and intangible costs.**

Systems thinking is key to understanding how climate hazards materialise and the potential damage to assets from interconnected risks including supply chain

PCRAM step 4: Identifying optimum thresholds to refine exposure



Could I manage potential risks now and in the future?

- Factoring in resilience benefits identified via the vulnerability assessment means that the exposure **initially identified as 'high', may be more manageable.**
- **Insurability (availability and affordability)**: Identifying thresholds for insurance risk transfer could become a key element of an optimised resilience strategy.

If financial and physical resilience are integrated, resilience investment has the potential to **protect and create value as well as unlock otherwise un-investable or uninsurable assets.**

Thank you

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