



GUIDANCE NOTE
ON CLIMATE CHANGE
RISK ASSESSMENT

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CONTENTS

INTRODUCTION	3
Climate Change Risk Assessment Requirements	3
WHAT ARE CLIMATE-RELATED RISKS?	4
Physical Risks	4
Transition Risks.....	5
Time Frames for Assessing Climate-Related Risks	6
Data References / Tools	7
CLIMATE CHANGE RISK ASSESSMENT.....	9
Climate Change Risk Assessment –Key Considerations and Supporting Questions	9
Alternatives Analysis	11
Compatibility with Host Country Climate Change Commitments.....	12
Use of Consultants	12
Client Disclosure Requirements	13

INTRODUCTION

This guidance note provides further information to support the understanding of the climate change risk assessment requirements included in the Equator Principles (July 2020) and their implementation.

The purpose of this guidance note is to support the implementation of the requirements contained in the Equator Principles on climate change risk assessment (Principle 2 and Annex A). This guidance note is not intended to establish new principles or requirements and is used at the discretion of Equator Principles Financial Institution (EPFI). The wording in the Equator Principles (July 2020) takes primacy in the event of different interpretations.

Finally, it should be noted that the content in this document will be further updated and developed over time to reflect the experience of EPFIs and clients, and in response to other changes affecting implementation (e.g. regulatory developments, technological advances).

Climate Change Risk Assessment Requirements

A Climate Change Risk Assessment (CCRA) is required to be undertaken:

- For Category A and, as appropriate, Category B projects. For these projects the CCRA is to include consideration of relevant climate-related 'Physical Risks' as defined by the Task Force on Climate-Related Financial Disclosure (TCFD).¹
- For all projects, in all locations, when combined Scope 1 and Scope 2 emissions are expected to be more than 100,000 tonnes of CO₂ equivalent annually. For these projects the CCRA is to include consideration of climate-related 'Transition Risks' (as defined by the TCFD).² The CCRA must also include a completed alternatives analysis which evaluates lower greenhouse gas (GHG) intensive alternatives.

The depth and nature of the CCRA will depend on the type of project, as well as the nature of risks, including their materiality and severity.

¹ See Task Force on Climate-Related Disclosures, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), June 2017, p 6.

² Ibid, p 5.

WHAT ARE CLIMATE-RELATED RISKS?

The Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD Recommendations) divides climate-related risks into two overarching categories. These are:

- risks which relate to the physical impacts of climate change (**Physical Risks**); and
- risks which relate to the transition to a lower-carbon economy (**Transition Risks**).

Under these two overarching categories are sub categories of climate-related risks.

When evaluating a CCRA the EPFI should ensure that the risks identified in the CCRA are aligned with the risk categories identified by the TCFD Recommendations.

Physical Risks

The TCFD Recommendations state that *'Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns.'*³

Acute physical climate risks can include increased severity and frequency of droughts, storms, floods, heat waves and wildfires. Chronic physical climate risks can include sea level rise and longer-term temperature increase.

Potential impacts for projects from Physical Risks could include:

- Direct damage to assets, as a result of extreme weather events (e.g. droughts, storms) or rising sea levels.
- Changes in water availability, sourcing and quality, often with consequent social impacts.
- Disruption to operations, ability to transport goods and supplies and impacts on employee/community safety.
- Indirect impacts from supply chain disruption, workforce/community exposure to vector-borne diseases (resulting from temperature/precipitation changes), or large movements of people in response to physical impacts of climate change (e.g. sea level rise, desertification, salinization of agricultural land, droughts, storms).

Certain projects may have increased exposure to Physical Risks, such as projects that are:

- Reliant on climate vulnerable resources, such as water.
- More susceptible to climate/weather variation, including extreme weather events.

³ Ibid, p 6.

- Located in geographically at-risk areas, such as coastal zones or flood plains.

Some examples of projects that could have increased exposure to Physical Risks include:

- Industrial operations, infrastructure or real estate situated in low lying areas close to coastlines, rivers or floodplains, may experience disruption to operations, physical damage and community impacts in **flooding** incidents.
- Infrastructure with high structures such as wind turbines and electricity transmission infrastructure are vulnerable to **storm damage**. This can reduce power capacity and/or cause power disruptions.
- Electricity transmission infrastructure in hot, dry climates can exacerbate or cause **wildfires**.
- Workforces on projects located in hot climates and who are working in sectors which typically require outside working (e.g. in agribusiness, construction or mining sectors) are more susceptible to occupational heat stress from **extreme hot weather**.
- Both renewable and fossil energy industries can be impacted by changes to **long term climatic conditions** (wind, temperature, solar radiation).
- Hydroelectricity and other water dependent industries, such as farming, food processing, textiles and garments impacted by a **decrease in precipitation levels** compounded by competing water needs (social and ecological).
- Capacity to ship/transport resources and manufactured goods can be limited by changes in precipitation levels and **extreme variability in weather patterns**.
- Agriculture/forestry product sectors are vulnerable to limitations imposed across their supply chains from **changes to habitats** resulting from climate change as well as drought, flooding, wildfires and storms.

Transition Risks

The TCFD Recommendations state that *'Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, reputation and market changes to address mitigation and adaptation requirements related to climate change.'*⁴

The TCFD Recommendations identify the following Transition Risks:

- **Policy and legal risks** – impact of policy and regulatory actions that seek to constrain the adverse effects of climate change or promote adaptation or transition (e.g. carbon pricing, emissions caps, differential capital treatment by regulators, land use changes, water restrictions).

⁴ Ibid, p 5.

- **Technology risks** – technological improvements that support the transition to a lower emissions economy and lead to demand shifts and market advantage for operators who adapt faster (e.g. battery storage, electric vehicles, carbon capture and storage and technologies that enable improved operating efficiency, reduce GHG emissions and optimise water and land use).
- **Market risks** - shifts in supply and demand for certain commodities, products and services as climate-related risks and opportunities are acted on (e.g., rise in electric vehicle demand, increased production costs due to changing input prices of energy, water, etc).
- **Reputation risks** - changing customer or community perceptions of an organisation’s positive or negative impact on the transition to a lower emissions economy (e.g., public perception of coal-fired power).

Certain projects may have increased exposure to Transition Risks, such as projects that are in:

- Industry sectors that have high GHG intensity, high water usage in locations prone to drought or high usage of land that requires native vegetation clearance.
- Jurisdictions with comprehensive climate action policies and associated regulatory controls at the project level.
- Markets, industries or jurisdictions that are adapting faster to alternative lower GHG technologies or climate efficient technologies, leading to a more rapid shift in the competitive landscape.
- Jurisdictions with higher stakeholder expectations, in sectors with higher global activist focus or locations where communities are well aligned in objectives and have greater capacity to engage on climate risks.

Some examples include:

- Energy sector projects may be subject to **market** related risk due to uncertainty over market demand from factors such as alternative technologies, consumer choices, demographic changes and climate change related policies.
- Agriculture-sector projects in the agriculture, food and forest products may be subject to **policy** related risk from national commitments related to emissions, as well as land or water use.
- High GHG emitting sectors (oil and gas, thermal power, metals smelting, cement, etc.) may be exposed to **reputational** risk from stakeholder opinions and concerns.
- Carbon tax schemes and safeguard mechanisms have potential to disrupt businesses and increase risks associated with violating climate-related **law or regulations**.
- New breakthroughs in clean **technology** with improved efficiencies can exert pressure on the project economics of existing renewable and conventional energy projects.

Time Frames for Assessing Climate-Related Risks

The timing of climate-related impacts on projects will vary across sectors and geographies. The suitable time frame for assessing climate-related risks, both Physical Risks and Transition Risks, is project-specific and will be influenced by project lifespan and the profile of the climate-related risks that may have a material impact on the project.

Data References / Tools

The following sources can be used as references / tools in order to identify and evaluate climate-related risks and develop mitigation and adaptation requirements.

Content Type	Source / Link	Description
Tool	World Bank	Disaster and climate risk screening tools for emerging market businesses
Adaptation	OECD	Knowledge Hub on Organisation for Economic Co-operation and Development (OECD)'s climate adaptation work latest research and analysis
Adaptation	MoE Japan	Practical guide for Scenario Analysis in line with the TCFD Recommendations
Data	GAR	Flagship report of the United Nations on worldwide efforts to reduce disaster risk
Data	ND-Gain	Risk index that summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.
Data	German watch	Risk Index that analyses to what extent countries have been affected by the impacts of weather-related loss events
Data	EM-DAT	Database on the occurrence and effects of over 22,000 mass disasters in the world from 1900 to the present day.
Data	WHO	Information and examples of how diverse environmental changes affect the occurrence of various infectious diseases in humans
Tool	Aqueduct	Tools to identify and evaluate water risks around the world
Tool	NatCat- MunichRe	Comprehensive databases for analysing and evaluating natural catastrophes
Tool	Nathan- MunichRe	Assess the risks of natural hazards around the world, from the location-based individual risk through to entire risk portfolios
Data / Tool	TCFD Knowledge Hub	Platform designed to help organizations implement the TCFD recommendations by providing over 400 relevant insights, tools and resources
Data / Tool	Climate ADAPT	Platform designed to support organisations in the development, implementation and evaluation of climate change adaptation strategies, plans and actions at EU, transnational, national and sub-national levels

Content Type	Source / Link	Description
Data	CDP	Climate-related datasets for over 800 cities and over 120 states and regions. Data is self-reported by governments through CDP's annual questionnaire and includes information on emissions, climate actions and climate risks.
Data /Tool	CLIPC	Platform contains a climate impact indicator toolkit which allows the user to view and explore climate change impact indicators calculated for different climate change and socio-economic scenarios
Data / Tool	WRI	A tool/database, known as Aqueduct, to help companies, investors, governments, and communities better understand where and how water risks are emerging around the world
Tool	PROVIA / MEDIATION Toolbox	A structured database of methods and tools that are available to support the assessment of climate change impacts and vulnerability, and adaptation decision-making.
Data / Tool	CCPI	Independent monitoring tool of countries' climate protection performance.
Data / Tool	UNFCCC	Nationally Determined Contributions NDC registry (interim link)
Data / Tool	Carbon Pricing – World Bank	Key Statistics on Regional, National and Subnational Carbon Pricing Initiatives

CLIMATE CHANGE RISK ASSESSMENT

The Climate Change Risk Assessment (CCRA) should be completed prior to financial close along with the rest of the environmental and social due diligence to inform a decision to support a project.

The CCRA should address the following questions at a high level:

1. What are the current and anticipated **Physical Risks** of the project's operations?
2. What are the current and anticipated **Transition Risks** of the project's operations?
3. Does the client have plans, processes, policies and systems in place to manage these risks? i.e. to **mitigate, transfer, accept** or **control**?

Further potential supporting questions to consider are provided below. These supporting questions are intended as help prompts and guidance only and are not considered a minimum requirement.

Climate Change Risk Assessment –Key Considerations and Supporting Questions

What are the current and anticipated <i>Physical Risks</i> of the project's operations?	
<p><u>Acute</u> Increased frequency and severity of:</p> <ul style="list-style-type: none"> - Wildfires - Flooding - Storms/Cyclones - Heatwaves <p><u>Chronic</u></p> <ul style="list-style-type: none"> - Changes in precipitation patterns resulting in drought or water stress - Rising mean temperatures - Sea level rise (i.e. in coastal zones, designated flood zones, areas) 	<p>What are potential Physical Risks for the project?</p> <ul style="list-style-type: none"> • Based on current climate conditions and long-term climate projections (if available), are there any potential Physical Risks that are known or forecast to get worse in the project's location? • Is the project highly reliant on a resource that could be impacted by climate change, like water or changes to land use? • Is the project in a location more vulnerable to climate change, such as a low lying area, coastal area or flood zone? • Is this project in an industry or geographic location where climate and weather variation are already having impacts? Are such impacts likely to be exacerbated over time? <p>How could the identified Physical Risks impact on the project?</p> <ul style="list-style-type: none"> • What would be the impact? Damage to assets, loss of operation, delays for customers, impact on suppliers, increased operating costs, or impact on the surrounding business, environment and communities? • How material would this be to the project's operations? Supply chain? Revenues (if known)? • Would climate vulnerabilities and risks inform the design, siting and analysis of alternatives of the project?

What are the current and anticipated *Physical Risks* of the project's operations?

vulnerable to storm surge)

- Would physical climate impacts result in impacts on community, business or customers? e.g., greater competition over water resources
- Would physical climate impacts increase the vulnerability of certain groups?
- Would these impacts be severe enough to affect the license to operate of the Project Sponsor or the project?

What are the current and anticipated *Transition Risks* of the project's operations?
Policy Risk

- Is the Government in this jurisdiction already regulating carbon assets/emissions or is it likely to in the future? What impact will that have on the project's operations and revenues?
- Does the Government regulate water use? Is it likely to? What would be the triggers for such a regulation?
- Does the Government regulate land use? Are they likely to?
- Does the country have biodiversity policy commitments that could be impacted?
- Has the Government made any public climate commitments?
- Is there any link between these commitments and the approvals required for this project?

Technology & Market Risk

- Could changing customer demand impact on the projects' operations or revenue? (e.g., increased demand for lower carbon products/services or decreased demand of high carbon products/services?)
- Is there a reasonably foreseeable potential for shifts in the supply of alternative technologies in the market?
- Could abrupt and unexpected shifts in the cost of energy, water or other input costs result in increased production costs?

Legal Risk

- Managing climate risks is increasingly becoming a legal obligation for directors who oversee entities. Has the Project Sponsor assessed the transition and physical climate risks of this project? Do they have a plan to mitigate them? Is there sufficient disclosure around material financial risks?
- Is the project at risk of climate related litigation?
- Might any project failures due to physical risk result in losses or damage that would lead to stakeholders undertaking legal action?

What are the current and anticipated *Transition Risks* of the project's operations?

Reputation Risk

- Is there likely to be media/activist scrutiny on the project? What are the drivers for such scrutiny?
- Are there divestment campaigns linked to this type of project or technology?
- How have similar projects been met by stakeholders in this jurisdiction?
- What are the expectations of disclosure and stakeholder engagement?

Does the client have plans, processes, policies and systems in place, or planned for future impacts, to manage both physical and transition risks? i.e. to mitigate, transfer, accept or control.

- What has the client done or planned to mitigate the identified climate-related risks?
- What processes and systems do they have in place to ensure this will happen?
- How realistic are these plans/processes/systems?
- How effective are these plans/processes/systems anticipated to be?

Alternatives Analysis

The CCRA should also include an alternative analysis, as appropriate. Consider:

- What are the expected GHG emissions (scope 1⁵, scope 2⁶ and as appropriate scope 3⁷) of this project?
- What methodology is the project using to measure its emissions, is it consistent with the GHG Protocol?⁸
- Have you, or an independent third party, validated the estimates?
- What is the GHG efficiency of the project by unit of production (e.g., gCO₂e/kWh)?
- How does it compare with other similar assets?
- Has the best practicable environmental option been identified and selected?
- Does the alternatives analysis adequately justify the proposed design option(s)?
- Is the Sponsor appropriately resourced to fulfil the Equator Principles reporting requirements set out in principle 10 and Annex A?

⁵ Refers to all direct GHG emissions.

⁶ Refers to indirect GHG emissions from consumption of purchased electricity, heat, or steam.

⁷ Refers to other indirect emissions not covered in scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions.

⁸ The GHG Protocol is based on a comprehensive globally standardised framework to measure and manage greenhouse gas (GHG) emissions from operations. Available from ghgprotocol.org.

Compatibility with Host Country Climate Change Commitments

The CCRA should also consider the project's compatibility with the host country's national climate commitments, as appropriate. This would include a brief statement of:

- The jurisdiction's Nationally Determined Contribution (NDC), as well as other high-level climate or energy plans, commitments, strategies, actions and/or targets.
- Related climate government permits / decision outcomes granted to the project.
- Whether there is a direct alignment / consistency / any link or not between climate or energy commitments and the project, and if so, a brief description of how they align or not (recommendation not a requirement).
- Forward-looking assessments of host government's compliance with objectives of the Paris Agreement⁹ and high-level analysis of potential / likely future policy commitments (e.g., legislation under review or consideration, political commitments, etc.).

Use of Consultants

In the event the EPFI is engaged prior to the development of the environmental and social impact assessment (ESIA) documentation for the project, the EPFI may wish to recommend the CCRA is included in the scope of work for the Project Sponsor's consultant undertaking the ESIA.¹⁰

With respect to the lender's independent consultant, the need for an independent consultant should be guided by the requirements articulated in Equator Principles 4 and 7. If an independent consultant is engaged in a transaction, their role with respect to a potential CCRA should be articulated, where possible, in the independent consultant's Scope of Work. The depth of the CCRA would depend on the nature and context of the project.

The CCRA might not be wholly within the capabilities of the independent consultant, and they may need to draw on outputs from other advisors of the lender, e.g. technical advisors, legal, market, financial, and insurance.

When considering consultants, the EPFI may seek to secure certain skills and experience on the consultant team to assist in ensuring a higher quality CCRA, such as:

⁹ Note that the first phase of Nationally Determined Contributions is not anticipated to be sufficient for limiting global climate change to "well below 2°C", as articulated in the Paris Agreement. There is an expectation that, over time, government climate actions will evolve to more closely align with Paris Agreement aims.

¹⁰ Please also refer to Equator Principles 4 Exhibit II (Illustrative list of potential environmental and social issues to be addressed in the ESIA documentation), which includes consideration of climate risks and adaptation opportunities.

- Deep understanding of climate change science, associated risks and impacts.
- Knowledge of factors impacting climate change vulnerability and resilience.
- Experience in carrying out localized climate risk assessments for high risk infrastructure.
- Experience developing climate change-related mitigation and adaptation strategies.
- Experience in catastrophe modelling tools, as well as exposure and vulnerability assessments.

Client Disclosure Requirements

Further to the Equator Principles requirements, the expectation is that the client will ensure that, at a minimum, a summary of the ESIA is accessible and available online and that it includes a summary of the project's **climate-related risks and the potential impacts of the identified risks**.