



TCFD reporting for the banking sector in Russia

Carbon Trust and EthnoExpert

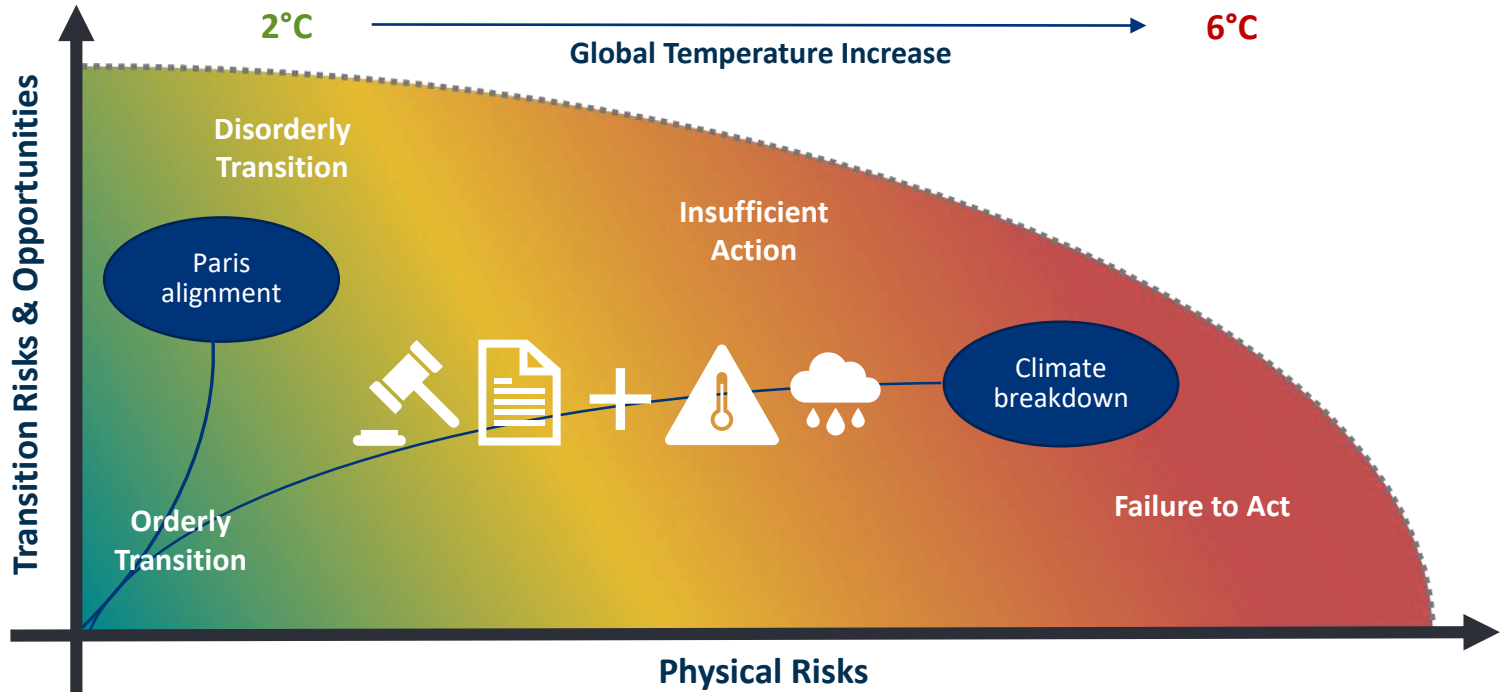
17/03/2021

Agenda

- 1. Introduction to TCFD**
- 2. Climate change risks and opportunities in the banking sector**
- 3. TCFD practical how-tos for implementation**

How will climate change affect your business?

TCFD encourages organisations to explore the likelihood and magnitude of financial impacts from potential climate-related risks & opportunities now and in the future



How will climate change affect your business?

TCFD is a disclosure framework of 11 questions across 4 categories



Governance

- a) **Board oversight** of climate-related risks and opportunities
- b) **Management role** in risk assessment and management

Strategy

- a) **Risks and opportunities** identified
- b) **Impact** on business, strategy, and planning
- c) **Resilience of strategy** to different scenarios

Risk Management

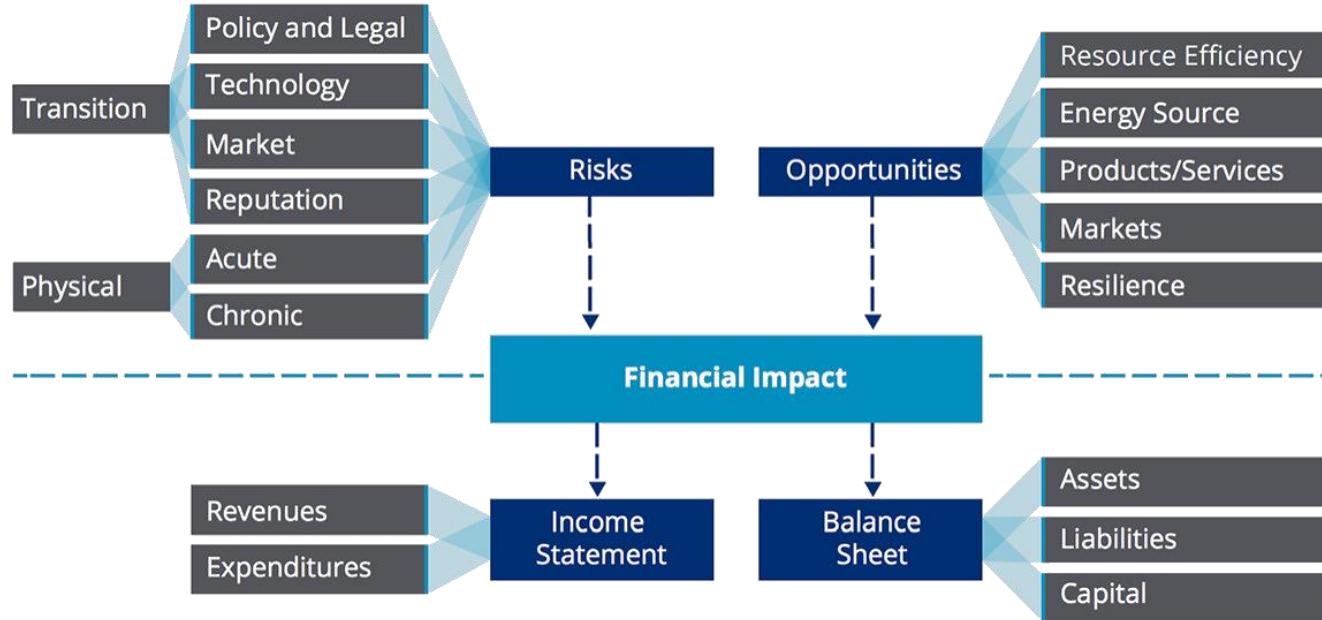
- a) Process for **identifying and assessing** climate-related risks
- b) Process for **managing** climate-related risks
- c) **Integration** with overall risk management

Metrics and Targets

- a) **Metrics** for climate-related risk assessment
- b) **Scope 1, 2, and (if needed) 3** emissions and related risks
- c) **Targets** for risks and opportunities and related performance

Types of climate-related risks and opportunities

TCFD identifies 11 categories of risks and opportunities



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Definition of banking sector

- Banking sector is defined as the business of commercial banks that accept deposits and make loans to individuals and corporations as well as engage in lending for infrastructure, real estate, and other projects.
- By providing these services, the industry serves an essential role in the functioning of global economies and in facilitating the transfer of financial resources to their most productive use.
- The industry is driven by the volume of deposits, quality of loans made, the economic environment, and interest rates.
- The regulatory environment that governs the commercial banking industry has the potential to impact shareholder value and sustainability performance.

Main transition risks for the banking sector

TCFD category	Risk
Policy and legal risks	<ul style="list-style-type: none"> Asset losses could materialize from exposure to firms that have not adapted to the economics of low-carbon emissions e.g. carbon-border adjustment mechanisms introduction by the EU Other types of decarbonisation policies and regulation that arise from bank customers (divestment from coal, stricter environmental regulations for mining, carbon footprint reporting regulations, etc.) Prudential policies from the regulators to recognize systemic climate risks by requiring financial institutions to incorporate climate risk scenarios into their stress tests increase compliance costs
Market risks	<ul style="list-style-type: none"> Uncertainty in market dynamics as consumer sentiment change during the transition to a lower-carbon economy e.g. reduced demand for products and services due to shift in consumer preferences, re-pricing of assets The need for evolving skillsets amongst employees including retraining
Technological risks	<ul style="list-style-type: none"> Some technological solutions implemented early in the transition phase may prove obsolete as better solutions are developed Lack of innovation in equipment available
Reputational risks	<ul style="list-style-type: none"> Increased demand from investors for inclusion of ESG factors and high-quality climate-related disclosures Growing environmental concerns of communities towards polluting industries as bank customers

Main physical risks for the banking sector

TCFD category	Risk
Acute risks	<ul style="list-style-type: none">■ Extreme weather events: storms, hurricanes, wildfires■ Extreme changes in precipitation patterns that may result in flooding
Chronic risks	<ul style="list-style-type: none">■ Heat waves, increased occurrence of droughts (2010, 2012)■ Rising sea level, high tides (2008, 2021)■ Temperature increase resulting in melting permafrost

Main opportunities for the banking sector

TCFD category	Opportunity
Market opportunities	<ul style="list-style-type: none">▪ New opportunities in new markets related to low-carbon/green economy e.g. financing renewables, energy efficiency, green buildings, electric vehicles
New products and services	<ul style="list-style-type: none">▪ New climate-related asset classes and financial instruments: green loans and sustainability linked loans with revenues from eco-friendly performance▪ Introduction of new elements into financial market infrastructure such as sustainability desk at MOEX
Resilience	<ul style="list-style-type: none">▪ Climate-related risk assessment implementation into management procedures▪ Developing competences in climate-related risks and opportunities management

Polling

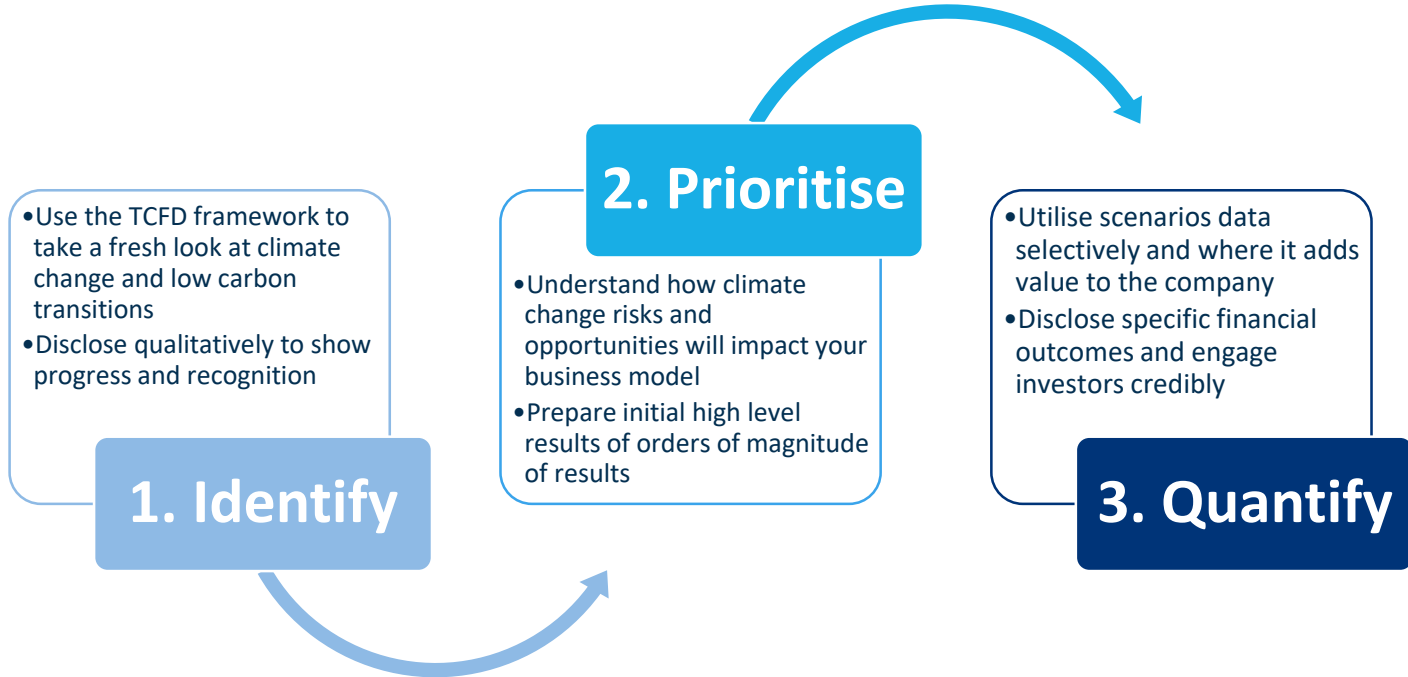
- *What do you consider as the main risks for the banking sector in Russia?*
- *What do you consider as the main opportunities for the banking sector in Russia?*

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The process for TCFD implementation

Disclosing aligned to TCFD is an iterative process with three fundamental steps

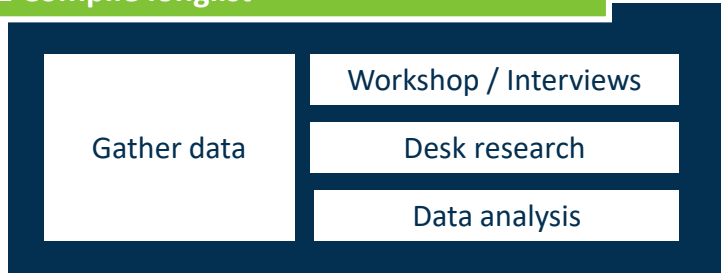


1. Identification and categorisation

Identify and categorise relevant risks and opportunities



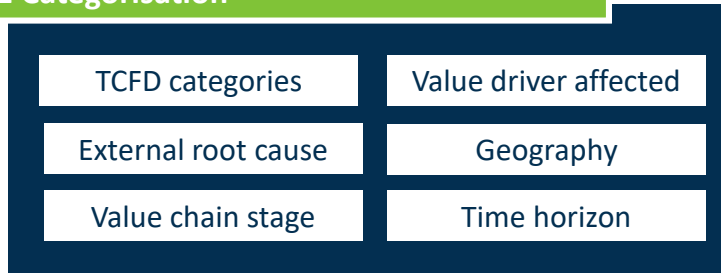
1.1 Compile longlist



Aim:

- Identify risks and opportunities based on the organisation's specific characteristics and value creation model, as well as the industry context in which it operates
- Identify both internal and external drivers of risks

1.2 Categorisation



Aim:

- Group risks and opportunities by pre-defined categories to start identifying trends and hotspots

1. Example identification output

Risks and opportunities are categorised and presented in a longlist



Risk or opportunity	TCFD category	External root cause	Value chain stage	Value driver affected	Geography	Time horizon
Increased cost of operations due to carbon pricing	Policy & legal risk	Introduction of direct carbon tax	Loans	Revenue	Russia	Short
Physical damage to real estate assets from reduced permafrost bearing capacity	Physical risk (chronic)	Increase in average temperature	Mortgages	Revenue	Russia	Long
Investor demand for environmental disclosures	Reputational risk	Changing investor expectations	Admin / overheads	Cost	Global	Medium

2. Prioritisation

Assign quantitative metrics and score against set criteria



2.1 Assign parameters and metrics

Scenario data for external factors	3°C scenario
	2°C scenario
Company information for value drivers	Public
	Internal

Aim:

- Assign a parameter to the risks and source relevant scenario data
- Assign financial metrics to the risks based on the elements of the business model that may be affected

2.2 Score risks against detailed criteria

Confidence level	Scenario sensitivity
Probability	Time horizon
Financial indicators (qual)	Financial indicators (quant)

Aim:

- Translate evidence base into comparable outputs
- Score risks and opportunities following a systematic, data-driven and coherent approach based on set criteria

2. Resources for scenario analysis

Different types of scenarios exist, each providing appropriate underlying data for relevant risks and opportunities



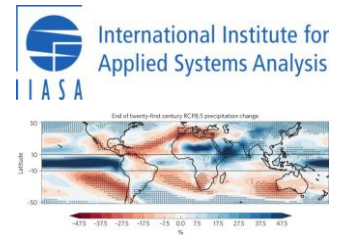
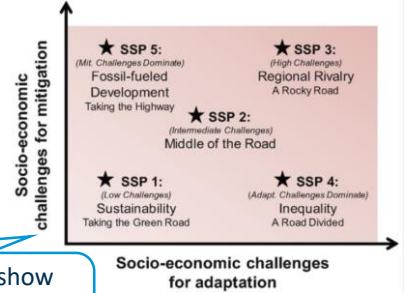
Data on progress and uptake of new technologies can show decarbonisation pathways



Data on sectoral energy use shows required decarbonisation and vulnerability to energy market changes



Data on the composition of the energy mix can show projected regulation on fossil fuels use (as an energy source or as a primary input for metals)



Data on water availability in nearby basins can show availability of water for cooling

2. Metrics for financial quantification

Financial impact is spread across different business areas, depending on each risk or opportunity, and TCFD recommends considering four financial categories



	1. Revenues	2. Expenditures	3. Assets and liabilities	4. Capital and financing
Value driver exposed to climate change	<ul style="list-style-type: none"> ▪ Demand ▪ Product mix and production capacity ▪ Market positioning and competition ▪ Operational continuity 	<ul style="list-style-type: none"> ▪ Production costs ▪ Energy and other operating costs ▪ Fines and regulatory compliance ▪ R&D ▪ Resilience to supply chain disruption 	<ul style="list-style-type: none"> ▪ Fixed asset values and re-pricing ▪ Asset valuation and lifetimes ▪ R&D and innovation costs ▪ CAPEX requirements ▪ Return on investments 	<ul style="list-style-type: none"> ▪ Access to finance ▪ Trustworthiness and creditability ▪ Relations with workforce, investors and other stakeholders ▪ Legal environment
Example financial metrics	<ul style="list-style-type: none"> ▪ Revenue ▪ EBITDA 	<ul style="list-style-type: none"> ▪ COGS ▪ Fixed costs ▪ Operating and other margins 	<ul style="list-style-type: none"> ▪ Asset valuations and write-offs ▪ Reserves valuation ▪ Inventory loss ▪ RoE and RoI 	<ul style="list-style-type: none"> ▪ Cost of capital ▪ Interest rates ▪ Long term debt ▪ Minority interest and retained equity

2. Example prioritisation analysis

Each risk and opportunity is scored on the 6 criteria, using scenario analysis



Risk or opportunity	Parameter	Confidence	Scenario sensitivity	Probability	Time horizon	Financial impact
Increased cost of operations due to carbon pricing	Russian carbon price (\$/tCO ₂)	5	5	5	3	\$50m
	Sourced from IIASA, SSP database <ul style="list-style-type: none"> Baseline: SSP2-45, R5.2REF Transition: SSP1-26, R5.2REF 	High, trusted source and relevant parameter	High, >50% parameter divergence across scenarios	High, >50% rate of change of parameter	Short term, <5 years	Value of loan
Physical damage to real estate assets from reduced permafrost bearing capacity	Russian average temperature increase (°C)	5	5	5	1	\$500M
	Sourced from KNMI database <ul style="list-style-type: none"> Baseline: RCP8.5 Transition: RCP2.6 	High, trusted source and relevant parameter	High, >50% parameter divergence across scenarios	High, >50% rate of change of parameter	Long term, >20 years	Value of real estate assets
Investor demand for environmental disclosures	None / qualitative assessment	1	3	5	2	Low
	No parameter available	Low, only qualitative assessment possible	Medium, qualitative assessment	High, qualitative assessment	Medium term, 5-20 years	Qualitative

2. Example prioritisation analysis

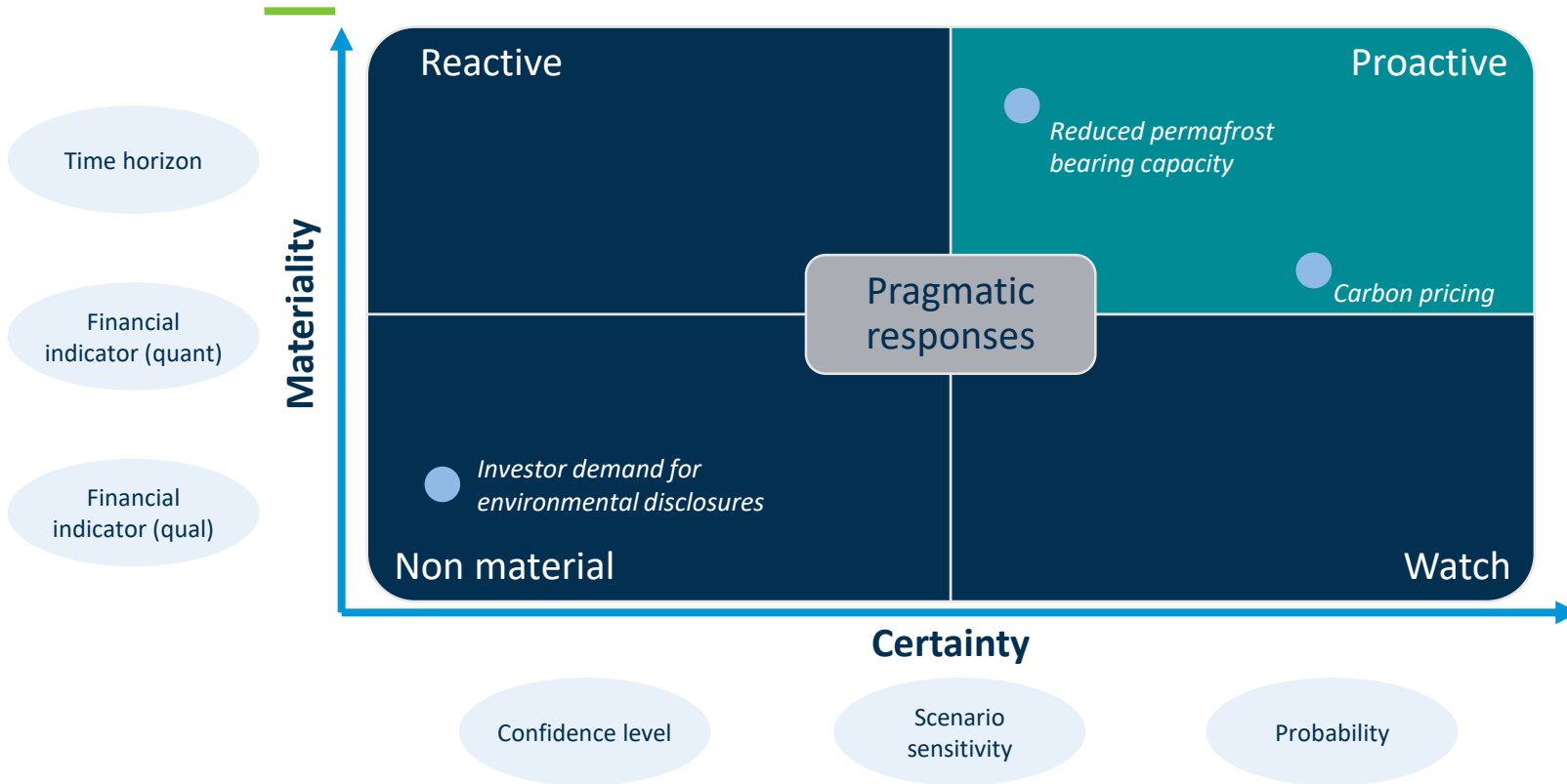
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Investor demand for environmental disclosures	None / qualitative assessment	1	3	5	2	Low
	No parameter available	Low, only qualitative assessment possible	Medium, qualitative assessment	High, qualitative assessment	Medium term, 5-20 years	Qualitative

2. Example prioritisation decision

The six criteria are grouped into “certainty” and “materiality”, and risks/opportunities in the “proactive” quadrant are prioritised

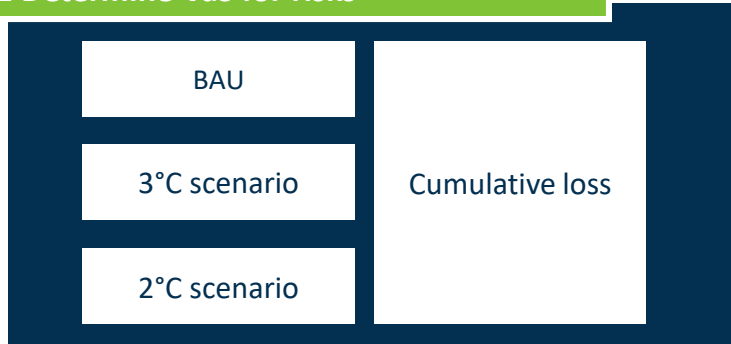


3. Quantification

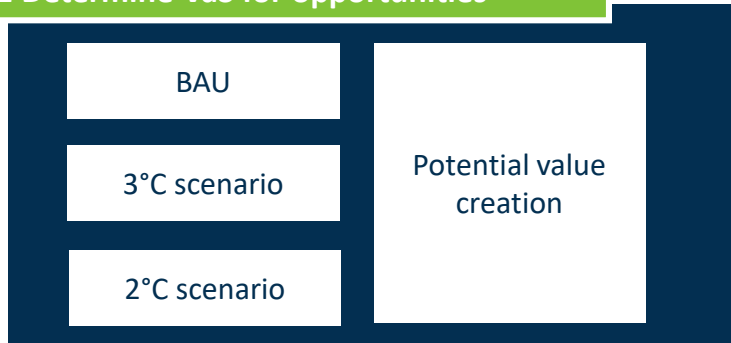
Determine the value-at-stake (VaS)



3.1 Determine VaS for risks



3.2 Determine VaS for opportunities



Aim:

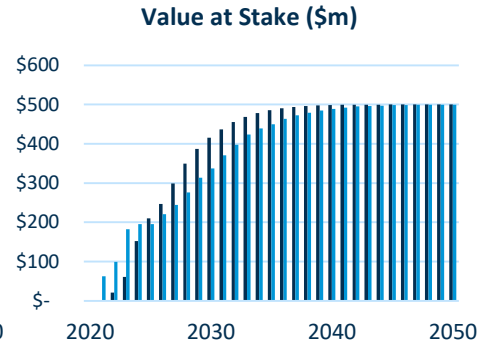
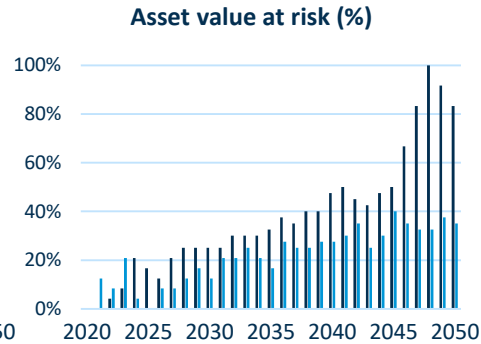
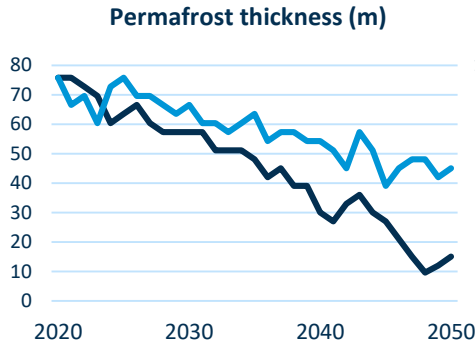
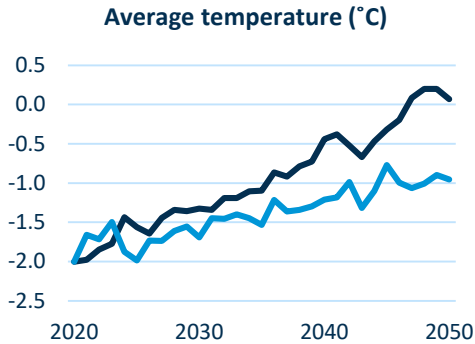
- Quantify long term financial impact of prioritised risks and opportunities
- Determine the cumulative loss (for risk) or potential value creation (for opportunities) between the “Business-as-Usual” baseline and two pathways developed aligned to climate scenarios

3. Example quantification

Increased temperatures decreases permafrost bearing capacity, damaging the value of real estate assets



— 3°C scenario — 2°C scenario



Projected temperature increase

1. Extract temperature projections from climate scenario database

Source: [KNMI database](#)

- 2°C scenario (RCP 2.6)
- Worst-case-scenario (RCP 8.5)

Impact on permafrost bearing capacity

2. Develop correlation between air temperature (°C) and permafrost thickness (m)

Source:

- Calculation: article by Xu and Wu, 2019 calculated thresholds of permafrost thickness at different air temperatures

Asset value at risk

3. Correlation between permafrost thickness and real estate assets value at risk

Source:

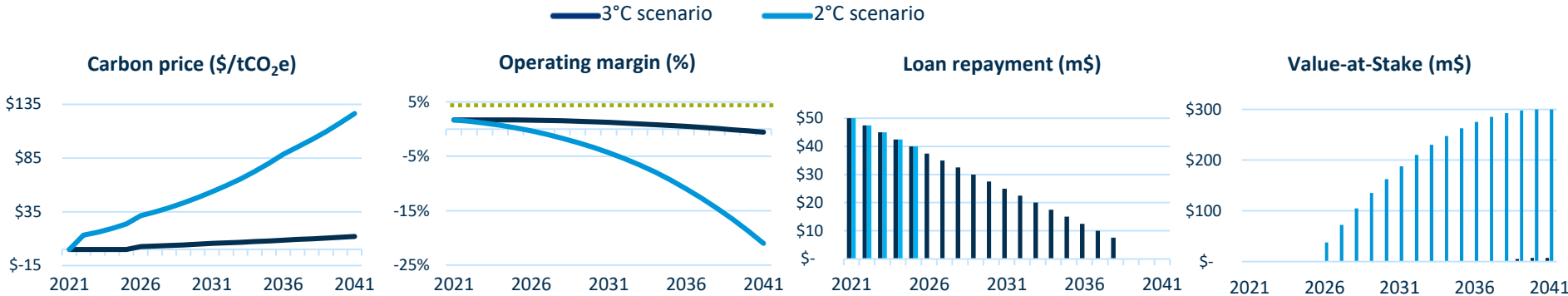
- Carbon Trust calculation, linear relationship assumed

Value-at-stake

4. Calculate cumulative loss of value of the real estate asset over the years under climate scenarios, and comparing to a baseline scenario

3. Example quantification

Foregone loan repayments from loan to power utility company as a result of carbon tax increasing counterparty's operating costs



Projected carbon price

1. Extract Russian carbon price projections from climate scenario database

Source: [IIASA, SSP database](#)

- 3°C : SSP2-45, R5.2REF
- 2°C: SSP1-26, R5.2REF

Impact on operating margin

2. Project impact of carbon tax on counterparty's operating margin

Source:

- Company data

Assumption:

- Carbon tax is only factor impacting operating costs

Foregone loan repayments

3. Calculate ability of counterparty to repay back loan instalments

Assumption

- When operating margin becomes negative, the counterparty is no longer able to make loan repayments – this occurs in the 2°C and 2039 in 3°C scenario

Value-at-stake

4. Cumulative value of loan foregone loan repayments is the value at stake

Polling

- *What part of a TCFD disclosure project do you think is the easiest?*
- *What part of a TCFD disclosure project do you think is the most difficult?*
- *What team(s) within your organisation is responsible for TCFD?*
- *Have you already disclosed aligned to TCFD?*
- *If YES, is there an area you plan to expand on in your next iteration of TCFD disclosure?*
- *If NO, what do you see as the main barriers for starting a TCFD project?*
- *If NO, when do you think TCFD will be important for your business?*



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