O.R.X

Climate and Operational Risk: The ORX approach

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Managing risk together

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1. Introduction

Climate is a major focus for risk managers across the globe. Given both the environmental changes we are witnessing and the understandable regulatory focus and societal response, organisations have been grappling with how to integrate climate into their risk management approach.

As a result of discussions with members, ORX is intending to help with this challenge during 2022 (and beyond). This paper sets out how we currently believe the industry is considering climate and operational risk, as well as how we will enhance our existing data and services to support members. This will include:

- ORX Reference Taxonomy – providing guidance on applying event, cause and impact taxonomies on climate risk-related events
- ORX Global & Insurance Loss Data – using a climate flag to allow members to begin to share climate related operational risk loss events.
- ORX Scenarios – publishing a paper on current scenario practices for climate, developing a climate related scenario handbook and using a climate flag / drivers in the scenario library to support sharing of relevant data.
- ORX News – a climate flag added to highlight relevant external event stories.
- Stress Testing – activity to support members' participation in relevant regulatory stress tests.

In addition, we outline in this paper examples of how the ORX Reference Taxonomy can be used to capture climate related operational risks.

We will also revisit this topic on a regular basis as the industry develops its thinking and approach further.

2. Defining an approach to climate

Following discussions with members, ORX is considering climate as a causal factor of a range of operational risks rather than as a discrete event type. We therefore do not propose creating a new event type for 'climate' in the ORX Reference Taxonomy. Rather, we consider that several existing event types are likely to be impacted.

Climate tends to currently be broken down into two areas of consideration: transition and physical:

- Climate change transition risk events include losses resulting from:
  - failures in a firm's process of implementing adjustments to a lower-carbon and more environmentally sustainable economy (triggered typically by a relatively abrupt adoption of climate and environmental policies);
  - failures in a firm's product design process that fails to take climate change into account
  - misconduct in selling or financing environmentally controversial products or activities ('greenwashing'), potentially leading to liability risks and/or reputational damage;
  - failures to comply with climate - or environment-related regulatory guidelines.
- Climate change physical risk events include losses resulting from:

- A changing climate, including more frequent extreme weather events and gradual changes in climate; and
- environmental degradation, such as air, water and land pollution, water stress, biodiversity loss and deforestation.

This includes any of the following caused by extreme weather events falling outside the normal or expected frequency of occurrence or reflecting a longer-term shift in climate patterns*:

1. Destruction to property or assets
2. Failure of staff to reach offices / places of employment and to perform services for customers.
3. Failures of utilities infrastructure.
4. Failure of vendors to provide critical services, including failure to have appropriate BCM plans in place.

*It is recognised that defining the difference between a 'normal' weather event and a 'climate change-related' weather event is difficult. This paper is not proposing a definition but this is a potential area of future activity.

3. Climate developments at ORX

3.1 ORX Reference Taxonomy

For firms adopting the ORX Reference Taxonomy, using a climate flag as above is a good way of identifying climate change-related events. The Reference Taxonomy Cause and Impact guidance[1] includes the concept of a flag. "Flags are voluntary, additional data that a firm can use to identify additional risk attributes. Organisations may use a flag to capture information allowing for analysis of related risks independent of the cause, risk event, or impact classification." This would be a good way of tagging and reporting on climate risks. And it enables the Cause and Impact categories developed for the Reference Taxonomy to be applied to operational risk events.

Applying ORX Reference Taxonomy to climate events

Tables 1 and 2 apply the ORX Reference Taxonomy to some examples of **transition** and **physical risks**.

Table 1 - Suggested application of the ORX Reference Taxonomy to climate-related transition risks

Examples of climate-related transition risks	ORX Reference Taxonomy for operational and non-financial risk	ORX Reference Taxonomy – Cause(s)	ORX Reference Taxonomy – Impact(s)
Failure of firm to plan for and adapt workplace/internal policy to changing climate	Inadequate workplace safety	-Procedure/process implementation failure -Change/projects mismanagement	Loss or remediation -Internal costs Regulatory fines/penalties Non-financial impact

[1] https://members.orx.org/orx-publications/orx-cause-impact-reference-taxonomy, sections 2.1 and 4.1

			-Disruption -Employees
Mis-selling of green products Mis-advice to clients on green portfolio selection	Pre-sales service failure	-Procedure/process design failure -Lack of adequate training/competency -Ineffective culture	Loss or remediation -Legal expenses -Regulatory fines/penalties -Customer restitution and compensation Non-financial impact -Reputation
Improper market practices connected with divesting of carbon or brown assets	Improper market practices	-Procedure/process - design failure -Lack of adequate training/competency -Change/projects mismanagement	Loss or remediation -Legal expenses -Legal fines/penalties Non-financial impact -Market/competition
Green-branded motor insurance for electric cars found to be non-compliant with environmental legislation	Improper product/service design	-Ineffective roles and responsibilities -Governance failure	Loss or remediation -Customer restitution and compensation -Regulatory fines/penalties Non-financial impact -Reputation

Table 2 - Suggested application of the ORX Reference Taxonomy to climate-related physical risks

Examples of climate-related physical risks	ORX Reference Taxonomy for operational and non-financial risk	ORX Reference Taxonomy – Cause(s)	ORX Reference Taxonomy – Impact(s)
Damage to firm's premises due to storm made more severe by climate change	Damage to an organisation's physical asset	Natural disaster	Loss or remediation -Damaged/lost assets Non-financial impact -Disruption -Customers -Employees
IT failure caused by failure of datacentre due to extreme heat Failure of utility power grid to cope with climate change, leading to datacentre failure	Hardware failure Inadequate business continuity planning/event management	Natural disaster	Loss or remediation -Internal costs -External costs -Regulatory fines/penalties Non-financial impact -Disruption -Customers -3rd parties
Critical staff are unable to reach workplace due to climate change-related wildfires	Inadequate workplace safety	Natural disaster	Loss or remediation -Internal costs Non-financial impact -Disruption -Customers -Employees

Causes

Causes will vary from firm to firm. For example, mis-selling of assets that are branded as environmentally friendly, but which are determined to be harmful to the environment could be caused by a number of factors. The firm may have had an aggressive sales culture, in which case *ineffective culture* would be a suitable cause category to use. Or the firm may have had inadequate training in place for sales teams, in which case *Lack of adequate training/competency* would be a suitable cause. The ORX Cause & Impact Reference Taxonomy allows multiple causes to be mapped to a single event, so firms may choose to capture more than one cause for more complex events.

Impacts

The ORX Cause & Impact Reference Taxonomy allows firms to map multiple Impacts to each event. Tables 1 and 2 show some suggested impacts for each event. This is not an exhaustive list, and firms would need to analyse each event individually to determine causes and impacts. For example, a small-scale or very localised instance of mis-selling might be determined to have minimal impact on a firm's reputation. But a prolonged and widespread mis-selling event might have a significant reputational impact. For example, reputational risk as well as operational risk is considered in the ECB Stress Test methodology.

3.2 ORX Global & Insurance Loss Data

ORX members report that obtaining high quality, consistent climate related event data is a priority to support understanding the operational risk effects of climate related changes and for meeting regulatory requirements (such as quantification and stress tests). Providing a climate flag in ORX loss databases will enable ORX members to tag their own climate-related events and report on climate-related events submitted by members.

Using a climate flag would be analogous to the treatment of indirect losses related to the Coronavirus pandemic. It enables ORX loss data services to use existing Basel event types and/or ORX risk event taxonomy categories for categorising loss events. And it enables ORX members to filter and report on events that are climate related. **In 2022, ORX will provide a climate flag for Global Banking and Insurance loss data services.**

Operational Risk Loss data: add a climate flag using the Industry Loss Event field

In the Global Banking and Insurance services, ORX will provide a new Industry Loss Event (ILE) category for events impacted by climate change. This would be recommended for use on a go forward basis. Like other ILEs, this climate flag would be available on a give to get basis. This flag will be called IL0014 Climate Risk. Although optional, ORX strongly encourages members to tag climate risk-related events with this flag.

A full description of the industry loss event and its application will be available here. Some hypothetical events and the rationale for whether or not to report to ORX are given below.

Applying ORX Reporting Standards to climate events

Table 3 - Suggested application of ORX Reporting Standards for Operational Risk to climate-related transition risks

Examples of climate-related transition risks	Event Type	Alleged Cause(s)
Failure of firm to adapt branches to changing climate	EL0302 – Safe workplace Environment	CS0207 – Workplace environment
Mis-selling of green products Mis-advice to clients on green portfolio selection	EL0401 – Suitability, Disclosure & Fiduciary	CS0202 – Unauthorised activity CS0403 – Inadequate Policy/Procedure
Improper market practices connected with divesting of carbon or brown assets	EL0402 – Improper Business or Market Practices	CS0202 – Unauthorised activity CS0403 – Inadequate Policy/Procedure
Green-branded motor insurance for electric cars found to be non-compliant with environmental legislation	EL0403 – Product Flaws	CS0202 – Unauthorised activity CS0403 – Inadequate Policy/Procedure
A bank is sued by a regional government as it has financed a new coal mine. The firm admits in court that it breached local carbon reduction legislation. (1)	EL0402 – Improper Business or Market Practices	CS0202 – Unauthorised activity CS0403 – Inadequate Policy/Procedure
An asset manager makes a strategic decision to exit petroleum stocks for both proprietary and client portfolios. The selling price is lower than the buying price.	***Not reportable to ORX****, this is a strategic decision by the firm, there is no process failure on the part of the firm.*	
A bank sells a 'green investment bond' to retail customers. A consumer pressure group establishes that the product contains stocks in natural gas producers. The bank admits that it did not perform adequate due diligence, puts the bond into run off, and compensates investors for mis-selling. (2)	EL0403 – Product Flaws	CS0403 – Inadequate Policy/Procedure
An insurance firm does not evolve its underwriting criteria for flood insurance. As a result, covered claims from policyholders increase rapidly leading to substantial losses for that business area (3)	EL0403 – Product Flaws	RC0301 – Inadequate process/control documentation, procedures, policies (ORX Insurance Operational Risk Reporting Standards)
A firm has an investment strategy for proprietary assets which does not allow investment in coal or oil companies. An investment fund manager ignores the policy and invests in coal stocks. The firm is subsequently fined for breaching its investment mandate.	EL0401 – Suitability, Disclosure & Fiduciary	CS0206 – Unauthorised activity

(1) Rationale for climate flag – climate change, and associated legislation, is a causal factor in this legal event.

(2) Rationale for climate flag – climate change is a causal factor in the development of the green product

(3) Rationale for climate flag – climate change is a factor in the environment that is driving the severity of the loss. The firm has suffered an operational risk event as its policy review process has failed to adapt to changing climate

Table 4 - Suggested application of the ORX Reporting Standards for Operational Risk to climate-related physical risks

Examples of climate-related physical risks	Event Type	Alleged Cause(s)
Damage to firm's premises due to storm made more severe by climate change	EL0501 – Natural disasters & Other events	CS0103 – Natural Disasters
IT failure caused by failure of datacentre due to extreme heat Failure of utility power grid to cope with climate change, leading to datacentre failure	EL0601 – Technology & Infrastructure Failure	CS0103 – Natural Disasters CS0506 – Infrastructure – Performance Degradation
Critical staff are unable to reach workplace due to climate change-related wildfires	EL0701 – Transaction Capture, Execution & Maintenance	CS0103 – Natural Disasters CS0201 – Inadequate Resources
A very severe storm, classified as a 'once in a decade event', causes wind and flooding damage to a firm's office building (1)	EL0501 – Natural Disasters	CS0103 – Natural Disasters
Persistent wildfires lead to the destruction of one of the firm's datacentres. Although the data is backed up, the switchover to the backup system does not work correctly, triggering a shutdown of both datacentres and a 4-hour service outage of the firm's mobile banking app	EL0601 – Technology & Infrastructure Failure	CS0103 – Natural Disasters

(1) Rationale for climate flag – climate change is a factor in the external environment that is driving the severity of the loss.

3.3 ORX Scenarios

The treatment of climate change in scenario analysis is at a nascent stage, with both physical and transition risk presenting specific challenges. Practice suggests that climate change physical risk is currently being approached as an additional potential factor to be incorporated in existing scenarios. For instance, an extreme weather event occurs which impacts locations and sites where the bank operates, causing damage to infrastructure and preventing employees from accessing the premises. As for transition risk, firms broadly report that risk types falling under this category may merit their own standalone scenario, although developments in this area are still too limited to draw a firmer picture of current practice.

The ORX Scenarios Working Group has developed definitions consistent with this paper to be adopted in the ORX Scenarios Library with a view to identifying operational risk losses resulting from both physical and transition risk events. The ORX Scenarios Library will include two new Scenario Categories for 2022 submissions, covering climate-related physical risks and transition risks. The library will also include climate-specific risk drivers. More information on ORX scenario categories is available here.

Scenario work in this area will therefore continue throughout 2022 to reflect and drive industry developments as practice matures and clarity around regulatory requirements increases.

3.4 ORX News

ORX News will tag climate-related stories using a climate ILE following the approach outlined for loss data above. Where relevant, the story will also be categorised with a climate-related Scenario Category. These searchable categories will enable ORX News subscribers to report on all climate risk-related stories in the database, and filter these by the relevant Reference Taxonomy types to identify different types of both physical and transition risks.

ORX News subscribers will be able to create alerts for events tagged with the ILE climate flag, providing trigger reports on key events.

3.5 Stress Testing

ORX will also investigate how best to support the evolving supervisory approach to climate for members involved in stress testing benchmarking exercises, including the ECB Climate Stress Test exercise.

Version control

Version/ date	Author
Version 2, February 2022	John Bosnell – additional detail on Taxonomy Cause & Impact categories
Version 3 March 2022	Incorporating review comments from members

Managing risk together

ORX believes many heads are better than one. We're here to bring the best minds of the international operational risk community together.

By pooling our resources and by sharing ideas, information and experiences, we can learn how best to manage, understand and measure operational risk and become less vulnerable to losses. We work closely with over 100 member firms to develop a deeper understanding of the discipline and practical tools. We set the agenda, maintain industry standards, and garner fresh insights.

ORX is owned and controlled on an equal basis by its members.

For more information about ORX, visit our website at **www.orx.org**

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