



Climate-related risk management

Current instruction

Date / Version	Scope	Document owner	Released by
17.11.2021, V 1.0	Ina Invest AG	Nicolas Fries, Project Manager Sustainability Implenia	Marc Pointet, CEO Ina Invest

1. Summary

This document provides information on how address climate risks in the purchase, development, realisation and operation of real estate by Ina Invest.

2. Introduction

Due to the long lifespan of real estate, it is important that every building is prepared today for the climate in the years 2050+. To this end, foreseeable future climate risks in Switzerland must already be taken into account in the present when purchasing land, developing and realising buildings, and appropriate protection and adaptation measures must be introduced to ensure the resilience of a property.

Climate risk considerations are therefore decisive factors in risk management and allow conclusions to be drawn about the credit risk of mortgage portfolios or the risk of stranded assets. In view of Ina Invest's strategic intention to develop and maintain the most sustainable investment portfolio in Switzerland, great importance is attached to the identification of climate risks and the derivation of measures at project level. The goal is the development, realisation and operation of climate resilient buildings.

3. Reference to standards

The identification of climate-related risks and the implementation of protection and adaptation measures are now required by various standards. In the SNBS certification, for example, the topic is addressed under criterion *204.2 Natural hazards and earthquake safety*. The portfolio benchmark analysis GRESB also evaluates the topic under points RM5 to RM6.4. In addition, the EU taxonomy introduced on 01.01.2022 that creates a harmonised valuation basis for "green funds" in Europe, also addresses this topic.

4. Definition of climate risks

Climate risks refer to threats that arise as a result of climate change. These can be divided into physical and transition risks. Physical climate risks describe dangers that arise directly from the exposure of properties. Here, a distinction is made between acute risks (extreme weather events such as storms, floods, droughts or fires) and chronic risks (precipitation, temperature fluctuations or water availability). Transition risks are threats that arise from the transition to a climate-resilient and "net-zero" economy - e.g. political, regulatory and reputational risks (see also Table 1 below).



Table 1 - Climate risks and their potential impacts

	Categories	Potential impact
Physical risks	Catastrophic events Extreme weather patterns such as storms, floods, droughts or wildfires	<ul style="list-style-type: none"> • Costs to repair or replace damaged or destroyed assets; value impact • Property downtime and business disruption • Potential for increased insurance costs or reduced / no insurance availability
	Changes in the weather pattern Gradual changes in temperature and precipitation – such as higher temperatures, rising sea levels, increasing frequency of heavy rain and wind, and decreased rainfall – which are likely to exaggerate the impact of catastrophic events	<ul style="list-style-type: none"> • Increased wear and tear on or damage to buildings, leading to increasing costs • Increased operating costs due to need for more or alternative resources (energy and/or water) to operate a building • Cost of investment in adaptation measures, such as elevating buildings or incorporating additional cooling methods • Potential for increased damages from catastrophic events • Potential for increased insurance costs or reduced / no insurance availability
Transition risks	Market The possibility that markets vulnerable to climate change will become less desirable over time. Rising capital costs to pay for buildings and maintaining infrastructure to manage climate risks	<ul style="list-style-type: none"> • Reduced economy activity in vulnerable markets • Reduced occupier demand for properties • Reduced asset value • Potential for increased real estate taxes
	Policy and regulation Regulations to address climate change – e.g. climate risk disclosure, tougher building standards, carbon pricing, emissions caps, changes to subsidies – as well as changing policies for providing funding for infrastructure or rebuilding after major events.	<ul style="list-style-type: none"> • Increased cost of doing business due to new disclosure requirements and compliance measures • Increased taxes – both those resulting from public policies such as carbon taxes and those for funding adaptation infrastructure • Loss of subsidies or other funding opportunities • Additional capital investment to comply with stricter regulation
	Resource availability Changes in the availability of key resources such as energy and water, including water scarcity	<ul style="list-style-type: none"> • Increased costs and reduced net operating income due to higher prices for water and energy • Additional capital expenditures to adapt buildings to operate with reduced/alternative resources
	Reputation and market position Growing stakeholder preference to work with companies incorporating climate risk into investment decisions, and consumer preference for real estate products incorporating climate mitigation.	<ul style="list-style-type: none"> • Risk to company brand and reputation of no action taken • Lower liquidity and/or reduced attractiveness of assets that have not incorporated climate mitigation

5. Physical and transition climate risks in Switzerland

5.1. Transition risks

On the level of policy and regulations major changes are expected in the context of the EU Taxonomy entering into force in January 2022. The topics of climate adaptation and mitigation are integral part of the evaluation of “green” funds. Ina Invest wants to be compliant with the new evaluation criteria



Climate-related risk management

and therefore adopts the “do no significant harm” criteria on the level of Climate, Pollution, Circular Economy , Water and Biodiversity.

With regard to the availability of raw materials, COVID 19 impressively demonstrated the impact that collapsing supply chains can have on prices as well as lead and delivery times. Except for timber and concrete, Switzerland is badly endowed with natural resources for construction materials. Even for timber the local industry is hardly able to satisfy local demand because of a high fragmentation of the industry. It is expected that import prices for primary resources will substantially increase in the next decade. As a result, the topic of circular economy will become more and more important. Therefore, Ina Invest supports the use of secondary resources where possible and actively asks for design principles that allow the reuse, remanufacture and recycle of building materials.

5.2. Physical risks

The Federal Office for the Environment (FOEN) identifies the following physical climate risks for the territory of Switzerland. These risks have an indirect or direct influence on a property. From this, relevant fields of action can be identified for the real estate sector.

Table 2 – Physical Risks in Switzerland and possible fields of action

Risks	Fields of action
Greater heat stress in agglomerations and cities	<ul style="list-style-type: none"> • Heat island effect due to sealing of green space and dark surfaces (e.g. inner courtyards, access roads and roofs) • Exterior design and shading • Cooling of offices and residential buildings • Summer thermal insulation/protection • Building envelope, building form and orientation • Physical resistance of the building envelope and the supporting structure, inertia, thermal dephasing, • Natural night-time ventilation
Change in storm and hail activity	<ul style="list-style-type: none"> • Choice of materials and fasteners • Water drainage from buildings in the context of terrain design and arrangement of openings • Automatic blind control with hail and wind warnings • Emergency concepts for operations (e.g. evacuation plan)
Increasing summer drought (risk of forest fires, water shortage)	<ul style="list-style-type: none"> • Reduction of water consumption • Greywater use • Flood protection concepts
Increasing flood risk	<ul style="list-style-type: none"> • Threshold or automatic bulkhead for protection against flooding
Increasing slope stability and more frequent mass movements	<ul style="list-style-type: none"> • Anchorage and supporting structure
Adverse effects on water, soil and air quality	<ul style="list-style-type: none"> • Air filter systems • Water filter systems
Alteration of habitats, species composition and landscape	<ul style="list-style-type: none"> • Green areas on roofs and the surrounding area
Spread of harmful organisms, diseases and alien species	<ul style="list-style-type: none"> • Water treatment and disinfection • Sensor technology (e.g. infrared detectors)



6. Process for the identification and mitigation of physical risks on project level

As Ina Invest projects are certified according to SNBS by default, the same processes as in criterion 204.2 *Natural hazards and earthquake safety* are applied. The assessment is based on the following two metrics:

1. Exposure to natural hazards (site quality)
2. Building quality with regard to protection against natural hazards

Important: If a project does not seek SNBS certification for a valid reason, the following two processes must still be followed.

Table 3 - Measured variable 1: Exposure to natural hazards (site quality) (according to SNBS)

SIA Phase	Measures	Evidence KP1 (preliminary project)	Verification KP 2 (construction completion)
Preliminary studies (Phase 2)	Target agreement strategic planning: clarification of the risk at the site and the targeted Protection goals according to SIA 261 and 261/1. → See online evaluation tool	Results of the clarifications from the preliminary examination	Evidence of the achieved protection goal
	Additionally for renewals: Clarification of the necessity of an earthquake safety check according to SIA 269/8		

Table 4 - Measured variable 2: Building quality with regard to protection against natural hazards (according to SNBS)

SIA Phase	Measures	Evidence KP1 (preliminary project)	Verification KP 2 (construction completion)
Pre-project (Phase 31)	Determination of measures to reduce the damage sensitivity of the building. → See online evaluation tool	Proof of the degree of protection achieved in accordance with SIA 261 and SIA 261/1 as well as a list of the planned measures.	Proof of the degree of protection achieved in accordance with SIA 261 and SIA 261/1 as well as a list and planning basis of the measures implemented.
		Additional renewals: If the recommended protection goals are not achieved: List of intended measures with proof of proportionality and economic efficiency (e.g. with Prevent-Building), respectively the target compliance factor according to SIA 269/8.	Additionally for renewals: If the recommended protective targets are not achieved: List of envisaged measures with proof of proportionality and economic efficiency as well as planning principles. of the implemented measures (as far as not included in preliminary project is carried out or in the case of essential project changes).



7. Process for determining CO2 emissions during operation

Ina Invest supports the decision taken at COP 21 and confirmed at COP 26 to comply with the 1.5 degree temperature limit. In this respect, Ina Invest follows the scientifically based reduction paths for the European real estate sector in terms of energy and CO2 published by CRREM.

In the course of SNBS certification, Ina Invest projects must meet energy efficiency and CO2 emission requirements under the indicators 301.1 to 302.3. Both methods commonly used in Switzerland for assessing the energy requirements for construction and operation are available. Verification can be carried out using both the "2000-watt methodology" in accordance with the SIA 2040:2017 leaflet "SIA-Energy Efficiency Path" and the "Minergie methodology". In the case of existing buildings, it is also possible to use measured consumption data in accordance with code of practice SIA 2031:2009 "Energy Performance Certificate for Buildings".

For Ina Invest new building projects, the methodology according to SIA Leaflet 2040 is applied in the preliminary project phase. Here, the primary energy consumption (non-renewable) and the greenhouse gas emissions for construction operation and mobility are calculated. The three parameters together must not exceed a limit value. An additional limit value exists for the areas of construction and operation. Target values are also listed for each sub-area. As shown in graphs 1 and 2, Ina Invest projects are oriented towards the target value of 3 kgCO2e/m2.yr for residential and 4 kgCO2e/m2.yr for offices with regard to CO2 emissions during operation. These values are in line with the reduction path proposed by CRREM.

Figure 1 & 2: Decarbonisation and energy pathway and SIA Benchmark 2040 for GHG emissions





Climate-related risk management



8. Versioning

Date	Version	changed content	validated by
17.11.2021	V. 1.0	First Draft Nicolas Fries	M. Pointet