

Climate Change Risk Management

Introduction

The earth's climate is not stable. Natural (sun activity, volcanoes, seawater currents, etc.) and man-made (deforestation, marshland melioration, carbon dioxide emissions, etc.) factors are influencing the climate. In the past decades we experienced increasing temperatures and, probably caused by this, a growing number of extreme weather events (draughts, floods, heavy storms etc.) with negative impacts like food and water shortage, wildfires, landslides and corresponding damage to the built and the natural environment.

These changes may also put our business at risk: our ability to serve our patients with life-saving medicines and diagnostic services and to generate profits to keep the business going may be compromised. That is why we thoroughly analyze and manage such risks as an integral part of our enterprise risk management in order to avoid, reduce or mitigate these negative impacts.

On the other hand climate change could also offer good business opportunities. We therefore examine potential business strategies to assess if and how we could benefit from this.

Hazards

We consider the following hazards that could influence our business:

- Higher (or lower) air temperatures and humidity
- Higher water temperatures (surface waters, groundwater)
- Heavy rainfall
- Droughts
- Severe storms
- Strong regulation

Scenarios – Risks – Mitigation measures

These hazards may trigger the following main scenarios which could impact our business.

We mitigate these risks with the indicated measures.

Hazard	Scenario	Potential impact	Mitigation
Higher (or lower) air temperatures and humidity	More cooling (or heating) of manufacturing plants and offices needed	Higher energy bill. A 20 % increase in energy consumption for cooling would cause cost in the range of 6 MCHF ¹ → very low risk	Energy efficient buildings: internal regulation. Energy recovery. Result: Very low risk (<5 MCHF).
	Reduction of productivity of employees	Productivity reduced by 10 %. Thus 10 % higher personnel cost = 1.5 BCHF ² → significant risk	People work in well thermally isolated and air conditioned offices: internal regulation on indoor room climate conditions. Result: low risk (<100 MCHF)

¹ Assumption: Cooling with electric power; 0.1 CHF / kWh; 0.3x10⁹ kWh used for cooling → Total cost of electric power 30 MCHF; 20 % thereof = 6 MCHF (million Swiss Francs).

² BCHF = billion Swiss Francs

Hazard	Scenario	Potential impact	Mitigation
	Emergence of new diseases: our employees getting ill	Loss of productive working hours by 10 %. Thus 10 % higher personnel cost = 1.5 BCHF → significant risk	We provide good healthcare to employees, including vaccination where appropriate. Business continuity management is in place to mitigate potential sudden dropping out of a significant number of employees. Result: low risk (<100 MCHF)
Higher water temperatures	Increase of water and energy consumption for cooling	10 % higher utility bill, in the range of 10 MCHF → very low risk	Energy and water efficient utility infrastructure. Energy recovery. Result: very low risk (<10 MCHF)
	Water too warm for cooling → alternative cooling needed	Additional investment cost in the range of 50 MCHF. Additional cost for electric power in the range of 10 MCHF. → very low risk	Implementation of innovative and very efficient technologies. Result: very low risk (<10 MCHF)
Heavy rainfall	Flooding and/or landslides damage our buildings and plants as well as transport routes	Business interruption with loss of sales of 100 MCHF and repair cost of 50 MCHF → low risk	Business continuity management processes are in place. Resumption of deliveries should be possible before patients run out of life-saving products. Buildings are typically located in places with low flooding and landslide risk. Result: very low risk (<10 MCHF)

Hazard	Scenario	Potential impact	Mitigation
	Flooding and/or landslides damage buildings and plants of our suppliers and service providers and the transport routes	Supply / service interruption and thus downtime of our plants. Loss of sales in the range of 1 BCHF. → significant risk	Careful selection and supervision of suppliers and service providers. Support for risk mitigation at their premises. Business Continuity Management. Result: low risk (<100 MCHF)
	Water polluted and not suitable for production	Water used in our production processes is already being cleaned by validated processes. Additional cost would be marginal.	Regular check of water quality. Result: very low risk (<10 MCHF)
Droughts	Shortage in water for manufacturing (reduced allowance)	Higher cost for water in the range of 1 MCHF. Cost for transporting water to our plant by truck in the range of 10 MCHF. Delays in manufacturing: can be avoided. → very low risk	Water recycling. Process optimization to reduce water consumption. Transport of water needed to our plant by truck. We would probably get priority by authorities for our life-saving medicines and diagnostics. Result: very low risk (<10 MCHF)
	Wildfires damage our plants and offices (or those of our suppliers and service providers)	Business interruption with loss of sales of 100 MCHF and repair cost of 100 MCHF → low risk	Business continuity management processes in place. Resumption of deliveries should be possible before patients run out of life-saving products. Dual sourcing. Careful selection of business critical suppliers and service providers. Result: low risk (<50 MCHF)

Hazard	Scenario	Potential impact	Mitigation
Severe storms	Damage to infrastructure (buildings, plants, utilities)	Business interruption, production interruption: loss of sales up to 1 BCHF. Repair cost in the range of 50 MCHF → significant risk	Storm-proof construction; preparation before storm. Business continuity management is in place. Result: low risk (< 100 MCHF)
	Damage to premises of suppliers and service providers and the transport routes	Same as under heavy rainfall (see above)	Same as under heavy rainfall (see above)
Strong regulation	The states relevant for our operations introduce CO ₂ taxes of 100 CHF per ton, with no mechanisms to distribute back the money or to avoid the taxes	With total CO ₂ emissions of ca. 1 Mt for scope 1, 2 and several scope 3 categories (including air travel) and an estimated twice this amount for the remaining scope 3 emissions (including purchased goods and services and investments which would become more expensive) this would result in additional costs of ca. 300 MCHF → high risk	Significant improvement of energy efficiency of our own operations. Substitution of fossil fuels with sustainable energies. Managing our procurement for lower CO ₂ “content” in scope 3 elements. Result: fairly small risk (ca. 100 MCHF)
	Ban of certain technologies (e.g. heating with fossil fuels) or materials (e.g. halogenated refrigerants) would force us to use more expensive alternatives	Reconstruction of utilities with cost in the range of 500 MCHF. Process changes with limited cost implications (< 100 MCHF).	Pro-active utilization of sustainable technologies. We regularly replace SVHC ³ and are well underway to eliminate the halogenated refrigerants. Result: low risk (< 100 MCHF)

³ SVHC = substance of very high concern according to the EU REACH regulation

Opportunities

A changing climate could also offer new business opportunities. We did a general analysis of corresponding opportunities. We don't see any significant opportunities due to climate change for our company short- to mid-term.

Summary

Measures to mitigate the worst climate change related risks are in place and are managed professionally. Consequently the total value at risk is in the range of less than 500 MCHF (less than 1 % of our sales). The probability of one of the significant risks listed above materializing is estimated to less than once every ten years (worst case scenario). Thus **the risk value per year is less than 50 MCHF** and therefore **negligible**. **We don't see specific business opportunities** for our company due to climate change.

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