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CLIMATE RISK ASSESSMENT UNDER EUROPEAN SUSTAINABILITY REPORTING STANDARD (ESRS) AND EU TAXONOMY: A CASE STUDY OF BECHTLE AG

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Abstract:

This study conducts a comprehensive climate risk assessment for Bechtle AG in alignment with ESRS requirements and EU Taxonomy. The analysis examines physical risks across 48 critical sites and the supply chain regions of Bechtle under a high-emission scenario (SSP5-8.5), as well as transition risks under the IEA's Net Zero Emissions scenario. While physical risks show no material impact due to Bechtle's business model and existing protection measures, transition risks present notable challenges, particularly in supply chain management and energy costs. Despite these challenges, the assessment also reveals opportunities for energy efficiency improvements and brand value enhancement through sustainability initiatives.

Keywords:

Bechtle AG, Climate Risk Assessment, Corporate Sustainability Reporting Directive (CSRD), EU Taxonomy, European Green Deal, European Sustainability Reporting Standards (ESRS), Non-financial Reporting

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Table of Contents

A list of abbreviations and a table of figures are provided in the appendix.

1 Introduction

The growing impact of climate change represents one of the biggest yet often underestimated risks that businesses face today. Recent findings from the global risk study by the World Economic Forum identified extreme weather events as the top risk organizations will face in the coming decade (Zahidi 2024). During 2011-2020, the average global temperature rose by 1.1°C above pre-industrial levels (1850-1900). Global greenhouse gas (GHG) emissions continued to increase, primarily caused by unsustainable energy consumption, land use practices, and lifestyle choices. The present period is characterized by the negative consequences of human-caused climate change, revealed in extreme weather events, limited food and water security, and widespread economic disruptions. In the latest assessment report (AR6), the IPCC stated that some climate change impacts are irreversible, affecting even less vulnerable regions like Europe (IPCC 2023).

The need for climate action has intensified. The year 2023 made new temperature records with severe extreme weather events globally (International Energy Agency 2023). Despite global efforts and policy measures, current projections still show a warming trajectory that exceeds the Paris Agreement targets. This indicates a need to strengthen climate regulations further. (International Energy Agency 2023) According to the Task Force on Climate-related Financial Disclosures (TCFD), the financial impact of climate-related risks could reach between $4.2 and $43 trillion by 2100, affecting investments and businesses across all sectors (Carney 2017). Although this may seem distant, these risks demand immediate strategic attention from companies, as this change presents pressing challenges and opportunities for forward-thinking organizations. The Munich Re puts the total global economic loss from natural disasters at US $250 billion for 2023 (Munich Re 2024).

In this context, also Germany is increasingly affected by the consequences of climate change. Since 1881, the annual air temperature has increased on average by 1.7 degrees (Umweltbundesamt 2023). The available water resources have significantly decreased and a

further increase in drought as well as an increase in heavy rainfall events can be expected (Umweltbundesamt 2021).

Operating in this challenging context, Bechtle AG, with its main sales market and over 100 sites in Germany, faces increased exposure to these climate-related risks as well. The company's initiative to conduct a climate risk assessment is driven by two factors: their environmental responsibility to confront climate challenges and secure the business model, as well as the obligation to comply with new regulatory landscape in the European Union (EU). The EU has published new regulatory requirements for sustainability reporting through the Corporate Sustainability Reporting Directive (CSRD), which obligates companies to disclose their sustainability information in compliance with the European Sustainability Reporting Standards (ESRS). These standards require, among other disclosers, a climate risk assessment, including physical and transition risks. Additionally, the EU Taxonomy provides a classification system for environmentally sustainable economic activities, also requiring Bechtle to demonstrate the contribution to environmental objectives and assess climate risks.

Given that, this study aims to conduct a comprehensive climate risk analysis for Bechtle AG and ensure that the results comply with the evolving regulatory environment in the EU.

2 Theoretical Background: Sustainability Reporting

2.1 Corporate Sustainability Reporting Directive and EU Taxonomy

The Corporate Sustainability Reporting Directive and EU Taxonomy form the current regulatory framework for sustainability reporting in the EU. Before looking at their origins, a short introduction of what they are.

The CSRD is a legislation published on December 13th, 2022, under the name Directive (EU) 2022/2464. The CSRD is part of the regulatory requirements for non-financial reporting of the European Union. The directive aims to enhance corporate transparency and comparability by standardizing how companies report sustainability information. (European Parliament and

Council of the European Union 2022) To achieve that, the CSRD provides unified standards that make the published reports of companies comparable and reliable (KPMG, 2022).

The EU Taxonomy, developed by the Technical Expert Group on Sustainable Finance (TEG), provides a framework for classifying economic activities based on their environmental sustainability (European Commission, et al. 2021). Companies that need to report under CSRD must additionally report the alignment of their activities with EU Taxonomy requirements. This creates transparency about their sustainable activities and enables stakeholders to evaluate the company's value beyond financial metrics with value created through sustainable efforts. (Mio, Agostini, and Scarpa 2024) Overall, it should help direct investments in sustainable activities that support the EU's climate goals, such as net zero emissions by 2050 (European Commission, et al. 2021).

Before the introduction of CSRD, non-financial reporting was defined by the Non-financial Reporting Directive (NFRD). The NFRD, introduced through Directive 2013/34/EU in 2014, required large public interest entities (>500 employees) to report on their environmental and social impacts and disclose non-financial information (European Parliament and Council of the European Union 2014). It was a milestone for non-financial reporting since it was the first directive, that made the non-financial reporting a mandatory requirement and not only a voluntary effort of companies (Mio, Agostini, and Scarpa 2024).

In 2015, the EU committed to the UN 2030 Agenda and Sustainable Development Goals and the Paris Climate Agreement and recognized the need to reform the sustainable finance system to support those (European Union 2023). Therefore, the EU announced the need for an expert group to ensure that the system sustainably supports financial growth, so the High-Level Expert Group on Sustainable Finance (HLEG) was created (European Commission et al. 2016). In their final report, the HLEG recognized the need for a clear definition of sustainable investment in the European Union. This should provide legal clarity and prevent greenwashing. Therefore,

they suggested a classification system and standardized approaches for green bonds and investment funds across the EU (European Commission et al. 2018). To develop these suggestions into an actual framework, the Commission launched an Action Plan on Financing Sustainable Growth in 2018. Then, the European Commission created the TEG to develop the classification system, standards, and metrics needed. As a result, the TEG developed the EU Taxonomy. (Directorate-General for Financial Stability, Financial Services, and Capital Markets Union 2018)

While the TEG worked on developing the classification system through the EU Taxonomy, concerns about the effectiveness of the existing NFRD grew. Even though the NFRD set requirements, there was an increased doubt about the effectiveness of the directive. Stakeholders were concerned about the lack of comparability between the disclosed reports (European Commission et al. 2023). In response to these concerns, the European Commission committed to adapting and strengthening the existing NFRD (Mio, Agostini, and Scarpa 2024). As a result, the European Union presented the CSRD in 2022.

The CSRD advances the NFRD in the following requirements:

Expanded Scope: The CSRD expands the scope of entities that need to disclose sustainability information, rising from 11.600 (reporting under NFRD) to 50.000 companies in the EU. This expansion occurs because the CSRD applies to all large companies with more than 250 employees, 40€ million in net turnover, or 20€ million in total assets. The implementation will be gradual to give companies sufficient time to prepare for the demanding requirements. The timing when companies must comply with the CSRD depends on their size, turnover, and whether they are publicly listed or not. (Umweltbundesamt 2024)

Audit: The CSRD requires an external auditing of the sustainability reports. This ensures the reliability of the disclosed information and takes it to a more comparable level with financial reporting. (European Parliament and Council of the European Union 2022)

Electronic reporting format: The sustainability report needs to be submitted in a standardized electronic format to ensure transparency and accessibility to stakeholders (European Parliament and Council of the European Union 2022).

ESRS: The CSRD introduces the European Sustainable Reporting Standards. The ESRS sets specific guidelines and strict requirements on what companies need to report on. This ESRS makes the process more standardized. (Mio, Agostini, and Scarpa 2024)

2.2 European Sustainability Reporting Standards (ESRS)

The ESRS is a set of standards that serve as a framework for sustainability reporting. The main objective is to improve transparency and accountability of the disclosed information by the companies. The ESRS provides the detailed guidelines and standards that companies need to fulfill in order to comply with the CSRD. (European Commission et al. 2023)

The ESRS is structured in two cross-cutting and ten topical standards:

European sustainability reporting standards (ESRS)	
ESRS 1	General requirements
ESRS 2	General disclosures
ESRS E1	Climate change
ESRS E2	Pollution
ESRS E3	Water and marine resources
ESRS E4	Biodiversity and ecosystems
ESRS E5	Resource use and circular economy
ESRS S1	Own workforce
ESRS S2	Workers in the value chain
ESRS S3	Affected communities
ESRS S4	Consumers and end-users
ESRS G1	Business conduct

Figure 1 Overview of the European Sustainability Reporting Standard (European Commission et al. 2023).

ESRS 1 provides general requirements for sustainability reporting under ESRS. It gives principles and guidelines that the companies need to align with when they create their non-financial report. Key points include double materiality, due diligence, time frame, and a general structure. (Umweltbundesamt 2024)

ESRS 2 provides general disclosure requirements that companies need to align with. The companies need to report on Governance (GOV), Strategy (SBM), Impact, Risk, and

Opportunity Management (IRO), and Metrics and Targets (MT) at a general level across all sustainable issues. (European Commission et al. 2023)

Both ESRS 1 and ESRS 2 are considered "cross-cutting," which means that they apply to all companies and industries, regardless of specific sustainability topics. In addition, ten topical-specific standards focus on Environmental, Social, and Governance (ESG) areas. These standards require more detailed reporting on each ESG topic and are structured into topics, sub-topics, and, where necessary, sub-sub topics. For each topical standard companies must also disclose on GOV, SBM, IRO, and MT. (European Union 2023)

In the future, sector-specific standards will be included in the ESRS. These will address sustainability topics that are tailored to specific industries. These standards will ensure better comparability between companies within the same sector on how they address sustainability matters. (European Commission et al. 2023)

2.3 Climate Risk Assessment

2.3.1 Physical and Transition Risk

Companies are increasingly required to address the risks and opportunities that the consequences of climate change bring to their business activities and to implement adaptation and mitigation actions if necessary (Loew et al. 2024). Therefore, the regulations differentiate between two kinds of risks.

Physical Risks as defined by the Intergovernmental Panel on Climate Change (IPCC) in their latest Assessment Report (AR6), refer to the "potential for adverse consequences for human and ecological systems" (IPCC 2023) from climate-related hazards. These risks result when climate hazards interact with vulnerable systems. Their impact is then determined by the exposure to the hazard and specific vulnerability factors within the system. These risks can be faced either as acute risks from extreme weather events or as chronic risks from longer-term shifts in climate patterns. (Loew et al. 2024)

Transition Risk results from changes to move toward a low-carbon and climate-resilient economy (EFRAG 2022). Many national governments have set clear targets to reduce carbon emissions. For example, the EU has committed to reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels, and to be an economy with net zero greenhouse gas emissions by 2050 (European Union 2021). Such strict targets will require environmental regulations that force businesses to implement actions to reduce their CO_2 emissions. For companies, transition risks often result in policy, legal, technological, market, or reputational risks (EFRAG 2022), all of which can result in financial and operational challenges for businesses as they adapt to stricter standards and market demands.

2.3.2 Regulatory Requirements

To standardize and ensure companies adequately assess and manage these physical and transition risks, the EU has introduced two comprehensive regulatory frameworks, which require climate risk assessment and disclosure: EU Taxonomy and ESRS.

Under the **EU Taxonomy**, climate risk and vulnerability assessments became mandatory for the first time in 2022 (Loew et al. 2024). The Taxonomy specifically requires companies to assess physical climate risks across the four categories: changes in temperature, wind, water, and solid mass. For long-term activities of over ten years, companies must use an IPCC climate scenario in their assessment. The taxonomy requires companies to evaluate and analyze the materiality of the climate risks by assessing their exposure and vulnerability. Where significant vulnerabilities are identified, adaptation measures need to be defined and implemented to reduce these risks. (European Union 2021)

Under **ESRS** the standard E1 “Climate Change” defines detailed reporting requirements on physical and transition risks (Loew et al., 2024). While the climate risk assessment under EU Taxonomy focuses on a physical risk assessment only, the ESRS requires companies to assess and report on both physical and transition risks. The ESRS requires a climate risk assessment

for the most critical sites, including a vulnerability assessment, an assessment of the physical climate risks in the supply chain, and a transition climate risk assessment. Physical risks must be assessed under at least a high-emission scenario, while transition risks must consider at least a climate scenario aligned with limiting global warming to 1.5°C with no or limited overshoot. (EFRAG 2022)

2.3.2.1 Climate Scenarios

The assessment will use two scenarios as a base for different aspects of climate risk assessment. The IPCC's SSP-RCP scenarios will form the basis for the physical risk assessment, and the International Energy Agency's (IEA) Net Zero Emissions (NZE) scenario will form the base for the assessment of transition risks (EFRAG 2022).

The IPCC has developed various scenarios to assess potential climate futures. The scenarios presented are not predictions of the future, but a description of how the future might develop based on several assumptions (Rogelj et al. 2018). The Representative Concentration Pathways (RCPs) were introduced in the IPCC's Fifth Assessment Report. They focus on greenhouse gas concentration trajectories and are defined by their radiative forcing levels in 2100, ranging from 2.6 to 8.5 W/m² (RCP2.6 - RCP8.5) (IPCC 2023). The most recent Assessment IPCC Report, AR6 introduces new climate pathways called Shared Socioeconomic Pathways (SSPs) (IPCC 2023). SSPs describe possible alternative futures based on different socioeconomic developments, including factors like economic growth, technological progress, and social changes. The framework consists of five pathways, ranging from high cooperation to a fossil-fuel-driven economy with limited climate policy (IPCC 2021).

In AR6 a combination of SSP and RCP are used to create a more comprehensive scenario. It links socioeconomic developments with emission pathways and their climate impacts. The scenarios are then called for example, SSP5-8.5, where the first part (SSP5) indicates the socioeconomic pathway, and the second part (8.5) represents the radiative forcing level.

The Net Zero Emissions scenario of the International Energy Agency, published in 2021, presents a pathway to limit global warming to 1.5°C by 2050 with limited overshoot compared to pre-industrial levels. It gives a roadmap that shows how the global energy sector can achieve net zero emissions by 2050. Therefore, the IEA describes changes that need to happen in the energy system and customer behavior. The scenario projects a reduction in the total energy supply by 2030 despite economic growth. (International Energy Agency 2021) This should be achieved through a 4% annual decrease in energy intensity, defined as “the amount of energy used to generate a unit of GDP” (International Energy Agency 2021). The energy mix will be more diverse than today, with renewables providing two-thirds of energy by 2050. Nuclear power's contribution doubles between 2020 and 2050. To enable this transition, the annual energy investments must increase. Therefore, energy investments are predicted to peak in 2030 with 4.5% of GDP and then go back to 2.5% by 2050. The NZE acknowledges various uncertainties in economic conditions, policy effectiveness, and technological advancement. Success depends strongly on citizen participation, as consumption choices and social norms are very important drivers in the energy transition. (International Energy Agency 2021)

3 Methodology

The methodology of this thesis uses a mixed-methods approach to conduct a comprehensive climate risk assessment for Bechtle AG, with focus on alignment with the European Sustainability Reporting Standards and the EU Taxonomy requirements. This approach combines quantitative climate risk analysis tools with qualitative expert interviews to ensure scientific accuracy and practical applicability for Bechtle AG.

The research methodology consists of two main components. First, a physical risk assessment was conducted using primarily two tools. The Munich RE's Location Risk Intelligence SaaS Platform and the IPCC World Interactive Atlas. Both tools are based on the latest data from the IPCC's Sixth Assessment Report (AR6) and enable an analysis across various time horizons

and different climate scenarios. Munich Re's Location Risk solution provides data to assess climate change risks based on specific locations and the latest scientific research. The information helps to understand, measure, and manage the risks for the locations chosen to be analyzed (Munich Re Service GmbH 2023). As required by the legislation, the analysis is based on a climate scenario with high emissions scenario (European Commission et al. 2023). The analysis uses the SSP5-8.5 scenario. This represents a future driven by fossil fuel development, characterized by integrated global markets and technological developments. Despite economic and social progress, this pathway relies heavily on fossil fuels, mainly coal, and promotes energy-intensive consumption patterns worldwide. Under this scenario, carbon dioxide emissions are projected to reach triple their 2015 levels by 2075. The pathway indicates a radiative forcing of 8.5W/m² by the end of the century, with global mean surface temperatures likely to rise by approximately 4.4°C (with a range of 3.3°C to 5.7°C) (IPCC 2023).

The IPCC Interactive Atlas is an online tool that helps visualize climate data and trends. It shows how different climate factors change over time and across different regions. The tool uses the same data and research that support the IPCC reports making it a reliable source for climate risk assessments (Gutiérrez et al. 2021), which is why it was chosen for analyzing the sourcing and sales regions. The risks for the supply chain were also assessed based on the SSP5-8.5 scenario for short-term (2021-2040), medium-term (2041-2060), and long-term (2081-2100) time horizons.

This quantitative analysis provides data for understanding location-specific climate risks for the Bechtle sites and climate developments for the Bechtle supply chain regions.

To assess the vulnerability to these physical risks, the study implemented a qualitative research phase. Interviews were conducted with internal experts within Bechtle AG to get deeper insights and validate initial findings. The objective was to assess the potential impacts of the identified risks on Bechtle’s assets and business activities, to document experiences with past climate

events, and to identify existing adaptation measures. This qualitative information provided valuable company-specific context to the quantitative risk assessment.

The transition risk assessment formed the second component of the climate risk assessment. This phase began with extensive research, including a benchmarking analysis of industry practices and a review of the latest scientific reports on climate risks. A focus was on analyzing the latest scientific studies about the predicted effects of climate change on the economy and society in the context of a 1.5°C scenario. As well interviews were conducted to identify material risks and opportunities specific to Bechtle's future. This combination of external research and internal assessment provided a comprehensive understanding of the transition risks and opportunities for Bechtle AG.

4 Bechtle AG

Bechtle AG is one of the leading IT service providers and system integrators in Europe, headquartered in Neckarsulm, Germany. The company, founded in 1983, offers a wide range of IT infrastructure, software, and services to business customers in various industries. Bechtle operates in 14 European countries, with its main market being Germany, and has more than 14,000 employees. Already in 2011, Bechtle established a project group dedicated to sustainability, considering ecological, economic, and social aspects. This resulted in the Bechtle Sustainability Code in 2014 as an internal guideline. Since 2015, the company has published Sustainability Reports, following the guidelines of the Global Reporting Initiative (GRI). They provide insights and key figures across multiple sustainability areas. These reports are sent to all stakeholders and shareholders, ensuring a transparent communication on Bechtle's sustainability developments. Bechtle AG's commitment to advance and continuously improve their sustainability is reflected in the published climate protection strategy, which sets targets that include to reduce Scope 1 and Scope 2 emissions by 60% and Scope 3 emissions by 30% by 2030. (Bechtle AG 2024)

Bechtle AG already reports under EU Taxonomy, and as of 2024, with the introduction of the CSRD, Bechtle AG falls within the scope of companies that need to report and disclose their sustainability information, making a climate risk assessment necessary.

5 Climate Risk Assessment Bechtle AG

5.1 Physical Climate Risks Assessment

5.1.1 Physical Risk: Bechtle AG Sites

Bechtle operates in 14 countries at more than 100 sites, some of which are rather small (Lehmann, Marc, Xuezhen Guo, Ivica Marjanovic, and Bechtle 2024). To perform a material climate risk analysis and to ensure that the most important risks and opportunities to Bechtle's operations were identified, the first step was to establish materiality thresholds for the sites to be analyzed. It was determined that all warehouses and logistics centers should be included, as these are relevant to Bechtle's operations and very dependent on the location itself. In addition, all office buildings with 100 or more full-time equivalents (FTE) were included. Here, 100 was defined as a threshold value, as it would technically still be possible to proceed with business operations despite climate damage to the building. However, there is still a risk, especially for the employees working there. And the more employees there are in one site, the higher the risk gets. As a result of this materialization, the further climate risk analysis is based on the 48 most relevant sites in 8 countries.

Figure 2 Overview of Material Sites, analyzed for the Climate Risk Assessment of Bechtle AG.

As described in the theoretical part, the climate risk analysis is based on two pillars: physical and transition risk. As mentioned in the methodology, to identify physical risks a high-emission climate scenario needs to be chosen on which the analysis is based. To comply with the regulations of the EU Taxonomy and CSRD and to ensure that all potential worst-case assumptions of possible risks are covered and considered, the IPCC's SSP5-8.5 scenario with a timeframe until 2050 was chosen as a risk assessment base, in alignment with the time horizon of the Paris Agreement. The raw data on physical risk, based on the geographical location, were analyzed for all 48 sites using the Munich RE tool. While physical climate changes can theoretically lead to both risks and opportunities, Bechtle's analysis identified only risks. The company's business model as an IT service provider and hardware retailer shows no opportunities from physical climate changes since the operations do not benefit from altered conditions. Eight key risks were identified, evaluated, and classified in a five-level hazard scale from no hazard (dark green) to high hazard (dark red) over the next 26 years.

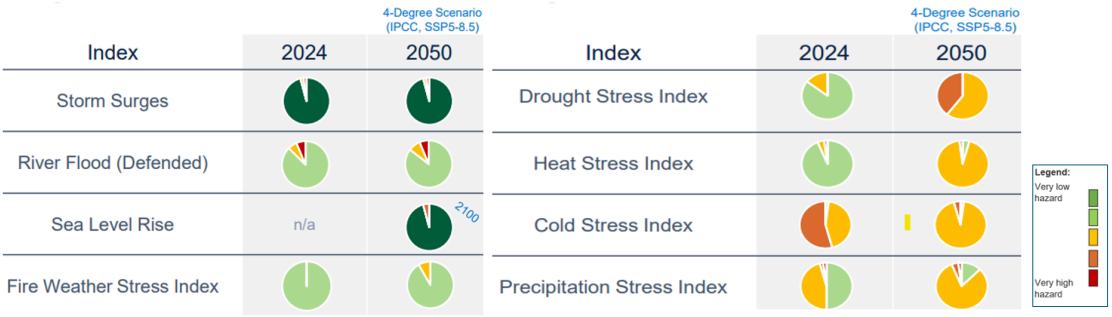

Figure 3 Physical Climate Risk Assessment Sites: Development from 2024 to 2050 under SSP5-8.5 with Munich RE data.

Taking into consideration the Munich Re tool data, starting with **Storm Surges** risks the data shows that the risk remains relatively stable between 2024 and 2050. Currently, 96% of Bechtle's locations face no hazard, with only two German sites facing a hazard, Bremen (high hazard) and Hamburg (medium hazard). The assessment of **River Flood** risks presents a different picture. While 12% of sites currently face at least medium risk levels, this is projected to increase to 14% by 2050. Three specific locations, Rotkreuz (Switzerland), Gütersloh (Germany), and Bremen (Germany), are identified as facing extreme flood hazards in the 2050

4-degree scenario. The majority of sites experience only a low hazard though (85%). Looking at **Sea Level Rise**, the analysis indicates a low immediate hazard but highlights the need for long-term consideration. In 2024, no sites face any hazards, and even by 2100, 96% of the locations remain unaffected. However, two sites, Hamburg (Germany) and Taipei (Taiwan), are projected to face high risks. This shows the importance of including the long-term impacts of rising seas. Shifting to **Fire-Weather Stress Risks**, the data shows a clear progression over time. While all Bechtle sites currently face low fire-weather-stress risk, the 2050 scenario indicates that four locations will move into the medium hazard category. One of the most notable shifts in the analysis is observed in **Drought Stress**. In 2024, 15% of sites face medium risk, while the remaining 85% experience low hazards. However, by 2050 in the 4-degree scenario, the situation will intensify. 60% of locations are projected to face medium hazards and the remaining 40% even face high drought risks. Analyzing the change of temperature, it shows a progression in the **Heat Stress Index.** Currently, 94% of sites face low risks, but this value is projected to shift a lot by 2050. Then 94% of all locations are expected to experience medium hazard levels. In contrast, the assessment of **Cold Stress** shows a decrease in severity. In 2024, 54% of sites face high hazards, but by 2050, this proportion is expected to drop to 94% facing medium hazards, 2% facing low hazards, and only 4% remaining at high hazard levels. Lastly, the analysis of **Precipitation Stress** also shows a notable change over time. In 2024, 46% of sites face medium risk, while 50% experience low hazards. However, the 4-degree scenario projects a more concerning picture, with 81% of locations expected to face medium risk and only 13% under low risk.

A first physical gross risk analysis shows that the most serious risks are observed in the Drought Stress, Heat Stress, and Precipitation Stress. Storm Surges and Sea Level Rise remain relatively stable but affect specific locations. Cold Stress shows an exceptional development by decreasing in the future. The analysis shows as well that while some physical risks remain

geographically concentrated (such as Storm Surge and Sea Level Rise risks), other risks (such as Drought Stress, Heat Stress and Precipitation Stress) show a broader geographic impact across the Bechtle's sites.

To find out, how many of the location-based risks assessed by the Munich RE tool actually affect Bechtle's assets and business model, these risks need to be evaluated specifically for Bechtle. Therefore, internal research and interviews were conducted to determine how the risks could impact Bechtle and identify if there are already existing adaptation measures. If necessary, additional adaptation measures will be derived.

4-Degree-Scenario (IPCC, SSP5-8.5) until 2050				
Climate Hazards	Munich Re Results	Impact Assessment	Existing Adaptation Measures	Adaptation Plan
	Summary of the Munich Re Results	Assessment of Financial Impacts Associated with Climate Risk	Adaptation Measures already implemented or planned	Summary of Results in an Adaptation Plan
River Flood	Low hazard	Destruction of buildings	Data center (Frankfurt) built on a plinth	No vulnerability to hazard - no adaptation plan necessary
Fire-Weather-Stress	Low hazard	Destruction of buildings	-	No vulnerability to hazard - no adaptation plan necessary
Drought Stress	Medium / high hazard	Limited water availability at buildings won't lead to financial impact due to limited water need at building	-	No vulnerability to hazard - no adaptation plan necessary
Heat Stress	Medium hazard	Increasing energy need for cooling and air condition	New location with air conditioning, alternative accommodation in cases of emergency	No vulnerability to hazard - no adaptation plan necessary
Cold Stress	Medium hazard (decreasing)	Increasing energy need for additional heating	-	No vulnerability to hazard - no adaptation plan necessary
Precipitation Stress	Medium hazard	Destruction of buildings	Critical resources located in secured area (Frankfurt)	No vulnerability to hazard - no adaptation plan necessary

Figure 4 Vulnerability Assessment Physical Climate Risk Sites.

Since **Storm Surge** and **Sea Level Rise** do not show a hazard in the first gross analysis (at least until 2050), they are not going to be considered in the further analysis.

In the first step, the possible financial impact of the risk for Bechtle was analyzed and assessed. **River Flood** and **Fire Weather Stress** will lead to the destruction of buildings. **Drought Stress** will affect the water availability at the locations. But given Bechtle's business model, it is important to consider that this will not have a big financial impact, since the water need is limited at the Bechtle sites. **Heat Stress** and **Cold Stress** will increase the energy demand because of a higher need for cooling, air conditioning, and heating. Finally, **Precipitation Stress** can damage or even breakdown the infrastructure of Bechtle.

In the second step, an assessment of existing adaptation measures and their potential to mitigate the identified impacts was conducted. It was found out that Bechtle has already implemented protective measures to address potential future impacts. The data center in Frankfurt (Germany), where Bechtle's essential data is stored, was built on a plinth. This provides protection against potential river floods. Against the increasing heat, the new Bechtle sites have air condition and enough space to accommodate older sites without air condition, in case of a high risk for those. While this ensures workplace functionality during high temperatures, the higher energy demand will still remain an impact. And against the precipitation, the critical resources are safely located in the secured Data Center in Frankfurt.

Analyzing the risks, the impacts, and the already existing adaptation measures of Bechtle it shows a positive picture. Bechtle faces physical risks but is not facing a vulnerability to them. Based on Munich Re risk assessment, the as low hazard classified risks will not become a threat until 2050, so Fire-Weather Stress does not need to derive an adaptation measure, and River Flood, although already low hazard classified, already has an adaptation measure, since important information is protected and offices can find workarounds in case of destruction, so the overall threat is not material.

The only medium/high hazard, Drought Stress, is not a big vulnerability to Bechtle since the business model only needs limited water and does not depend on the availability too much. Heat Stress, which is classified as medium risk, is already eased by air conditioning but will have an impact since it still increases the energy demand. Therefore in the future, a further rise in temperatures could become critical. So Bechtle should keep working on adaptation measures and keep that risk under close observation. Cold Stress is medium classified but predicted to decrease so there will not be any measures necessary, and Precipitation has already an adaptation measure, even though it is also only facing low impacts.

Overall, this vulnerability assessment shows that while Bechtle can not prevent facing various physical climate risks under the SSP5-8.5 scenario until 2050, most either already have good adaptation measures or only face low risk and so are not critical to the business model. The main focus should be kept on managing Heat Stress, as this could have growing impacts through increased energy demands.

5.1.2 Physical Risk: Up- and Downstream Supply Chain

A comprehensive physical risk assessment was conducted for Bechtle's up- and downstream supply chain, based on twelve sourcing and six sales regions under the SSP5-8.5 scenario and data from the IPCC World Atlas. The assessment revealed three key climate risks in Bechtle's supply chain. Mean and maximum temperature changes, precipitation patterns, and consecutive dry days. The assessment showed regional impacts, particularly in Brazil for the upstream supply chain and the Mediterranean area for the downstream supply chain through 2041 - 2060. However, the assessment and internal research concluded that there was no material risk to Bechtle's operations. This conclusion of non-materiality is based on two factors. First, only one supplier operates in high-risk regions, which mitigates the potential financial impact. Second, Bechtle's industry of IT products and services has customer preferences that are generally resilient to physical climate risks, with no expected changes due to these physical risks. Unlike the site assessment, where the current regulations require a detailed vulnerability analysis, the regulatory framework for the supply chain does not require such a vulnerability analysis for supply chain risks so far.

Given the non-material impact and the absence of regulatory requirements for detailed vulnerability supply chain analysis, the complete assessment can be found in the appendix C on pages 33-35. The main analysis in this thesis focuses on the physical risk assessment of sites and the transition risk assessment, due to their regulatory importance and direct operational relevance.

5.2 Transition Risk Assessment

Transition risks and opportunities are faced as society and the economy transform towards a low carbon emission economy (EFRAG 2022). The risks and opportunities for Bechtle are based on the Net Zero Emission by 2050 Scenario of the IEA, which aligns to keep global warming at 1.5°C compared to pre-industrial levels (International Energy Agency 2021). While Bechtle faces multiple risks and opportunities under the NZE scenario, this assessment focuses on the most material ones.

A material risk identified for Bechtle is the threat of increased product costs, due to stricter targets to reduce greenhouse gas emissions in the value chain (Carney 2017). As Bechtle must focus on reducing their own Scope 3.1 emissions (purchased goods and services), suppliers face increased pressure to implement CO_2 accounting and reduction measures to remain an attractive supplier to companies like Bechtle. The regulatory requirements force suppliers to invest in carbon reduction initiatives. These investments will lead to higher operational costs, which suppliers are likely to pass on to Bechtle through higher prices. Another transition risk for Bechtle is that they could lose customers if they don't properly manage climate and environmental risks in their supply chain. Companies increasingly need to make their supply chains part of their overall sustainability strategy (Sisco, Chorn, and Pruzan-Jorgensen 2015). Companies need to show that they conduct due diligence for managing social and environmental risks. Otherwise, their reputation will be damaged and demand will decrease. An analysis of Bechtle's supply chain reveals that it has several environmental issues. There is high CO_2 emission from the transportation of goods and the mining activities required to extract raw materials for hardware. Furthermore, the production process of the hardware sold by Bechtle requires a high level of energy. As well as downstream activities including the product use throughout its lifespan. Finally, there are low recycling and refurbishment rates in the B2B business, resulting in high e-waste volumes (Cornelis P. Baldé et al. 2024). Another risk that results from stricter policies is the increasing pricing for greenhouse gas emissions in the form

of carbon taxes or emission trading systems (IEA 2023). CO_2 prices are expected to rise (OECD 2024), which can result in higher costs for energy and electricity usage, leading to decreased competitiveness.

Regarding the risk of increased product costs, Bechtle faces a complex situation where the own efforts to reduce emissions create a feedback loop. By choosing greener suppliers to meet environmental goals, Bechtle puts pressure on the suppliers and they invest in carbon reduction initiatives. These investments then lead to higher costs that suppliers pass back to Bechtle. This feedback loop shows the complex challenges companies face in the transition. Environmental responsibilities and cost management often compete with each other and make it difficult to balance sustainability goals and keep competitive prices. Bechtle is aware of the risks in its supply chain and is working on steps to address them. Due to the implementation of a supplier code of conduct, Bechtle considers the risk of decreasing demand as relatively low. Currently, customer awareness of Bechtle clients is very customer-dependent and often focuses on social and ethical issues rather than environmental concerns. However, environmental risks should not be underestimated as awareness is likely to increase. Current challenges for Bechtle include low B2B recycling and refurbishment rates, resulting in a high e-waste volume. To address these challenges and prepare for growing environmental awareness, Bechtle is developing a sustainable procurement strategy, which includes a product portfolio of low CO_2 emission products. The rising prices for greenhouse gases affect Bechtle. However, since this affects all companies in the region similarly, the impact depends mainly on Bechtle's ability to adapt compared to the competitors in the region and potential competition from regions with lower carbon prices. Bechtle needs to invest in energy efficiency measures to mitigate these costs in order to keep their competitive position.

Despite all these transition risks, Bechtle also faces opportunities in the transition to a low-carbon economy.

The biggest opportunity for Bechtle is the implementation of energy and electricity saving measures. These improvements will increase resource efficiency and consequently reduce operational costs. Especially in the office buildings, there is high potential for optimization.

Another opportunity lies in the shift toward decentralized energy generation and expanding renewable energy capacity. This shift offers Bechtle the chance to reduce its reliance on purchased energy by using onsite production. The transition not only leads to more sustainability but also provides a long-term reduction of operational costs and ensures energy security. The shifting landscape of customer preferences presents another opportunity for Bechtle to enhance its brand value. Companies that show commitment to address climate-related challenges gain a competitive advantage. The growing customer awareness of environmental issues creates an opportunity to build a stronger, more positive brand image.

Additionally, the EU Taxonomy increases investments in companies with sustainable activities. If Bechtle demonstrates strong sustainable practices, they will benefit from increased capital availability.

Bechtle is aware of these opportunities and is already taking advantage of some of them. The company has implemented photovoltaic systems and geothermal energy solutions in offices. Additionally, the offices use LED lighting and have integrated smart building automation systems, such as room temperature controls. All new buildings are planned with these technologies in mind. These measures align with regulatory changes in the EU, which include the EU Energy Performance of Buildings Directive (International Energy Agency 2023). This positions Bechtle to reduce operational costs and meet evolving building efficiency standards while contributing to the overall target to transform to net zero. Bechtle also recognizes the

reputational advantages of engaging with sustainability issues. The key challenge now lies in strengthening this image through reliable and verifiable sustainability practices.

Overall, while there are many opportunities, the case of capital availability demonstrates how transition developments can become either risks or opportunities. The EU Taxonomy framework can enhance capital availability when companies achieve strong alignment with sustainable practices. But it can restrict access if companies fail to adapt. For Bechtle, enhancing sustainable practices and achieving taxonomy alignment could increase capital availability and strengthen the market position, while other way Bechtle risks decreased access to capital.

In summary, Bechtle faces several material challenges in the shift towards a low-carbon economy. Key risks include:

- Increased product costs by stricter value chain emissions targets
- Customer loss from inadequate supply chain climate risk management
- Higher carbon pricing through taxes and emissions trading

While Bechtle's procurement strategy demonstrates good efforts in addressing these risks, especially given the growing stakeholder awareness, the company must take advantage of the arising opportunities:

- Optimization of energy management through efficiency measures and decentralized generation
- Brand enhancement from shifting customer preferences and credible sustainability engagement
- Increased capital availability through EU Taxonomy alignment

Their photovoltaic and geothermal initiatives provide a foundation, but success requires a strengthened focus on supply chain resilience, energy efficiency, and EU Taxonomy alignment to transform these challenges into competitive advantages.

5.3 Conclusion Climate Risk Assessment Bechtle AG

Given the regulatory requirement and Bechtle's effort to enhance sustainable practices and prepare for climate risks, a comprehensive climate risk assessment was conducted. The company's most material sites and supply chain were assessed under a high emission scenario (SSP5-8.5) and the transition risks under a NZE by 2050 aligned with 1.5°C pathway.

Bechtle's physical risks assessment shows that the company does not face any material risks for its sites. This positive position results from Bechtle's business model and the independence from fixed office locations. The operational business could function through home office arrangements, and Bechtle sites could also relocate if necessary. The few location-dependent sites, particularly critical infrastructure like the data center already have existing protection measures in place, and the risks they face are manageable. Similarly, the assessment of the value chain results in no material risks. The main physical risks are concentrated in specific sourcing regions, particularly in Brazil for upstream and the Mediterranean area for downstream operations. However, since only one supplier operates in the high-risk regions and customer preferences in the IT sector are unlikely to be affected by physical climate risks, the overall vulnerability remains low.

The transitional risks result in more important risks for Bechtle. In the assessment, several material risks could be identified. However, Bechtle has already implemented adaptation measures, and their ongoing sustainability efforts help to mitigate these risks and could even transform them into opportunities. The company's most critical challenge lies in supply chain management. As a non-manufacturing company, they depend heavily on their suppliers' efforts to reduce environmental impact. They can only put pressure on suppliers to then in result improve their own upstream supply chain. Bechtle has better control to positively influence their downstream supply chain. Here, they can influence their customer and create incentives through initiatives like offering a "green portfolio" and expanding their remarketing program for used IT devices.

For further improvement, Bechtle must continue to develop their sustainable initiatives and ensure that they are based on valid and verifiable sources. It is important to maintain credibility and avoid potential greenwashing risks. The alignment with EU Taxonomy requirements can provide a structured framework for this validation and help to ensure that Bechtle’s sustainability efforts are justified.

The climate risk assessment requires continuous supervision and adaptation, especially when there is a change in critical sites, regions, or the regulatory environment. A good next step would be to integrate the findings of this climate risk assessment into Bechtle's already existing internal risk management. While some climate related risks are already included in current risk assessments, climate risk management should not be separate from the general risk management processes. This integration will enable a more comprehensive risk monitoring and more effective response measures. Furthermore, transition risks and opportunities must be clearly communicated to all affected departments. It is essential that these departments understand, how they will be impacted by these changes. Ongoing risk observation and monitoring will remain a crucial component of this process.

Bechtle AG holds a strong position in terms of climate risk. As an IT company, they face no material physical risks that could cause sudden financial damage. The company mainly deals with transition risks, which develop gradually and are therefore manageable. This gives Bechtle time to adapt and prepare. Additionally, the transition to a low-carbon economy presents various opportunities for Bechtle. By continuously enhancing its sustainability efforts, the company is not only ensuring regulatory compliance but is also well positioned to strengthen its market leadership in the European IT sector.

References

Bechtle AG. 2024. *Bechtle Sustainability Strategy 2030*. https://www.bechtle.com/dam/jcr:466dbcbe-952c-4454-8018-f43a6254805b/bechtle-sustainability-strategy-2030-03-2024-en.pdf.

Carney, Mark. 2017. *Recommendations of the Task Force on Climate-Related Financial Disclosures.* Basel, Switzerland: TCFD. https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf.

Cornelis P. Baldé, Ruediger Kuehr, Tales Yamamoto, Rosie McDonald, Elena D'Angelo, Shahana, Althaf, Garam Bel, Otmar Deubzer, Elena Fernandez-Cubillo, Vanessa Forti, Vanessa Gray, Sunil, Herat, Shunichi Honda, Giulia Iattoni, Deepali S. Khetriwal, Vittoria Luda di Cortemiglia, Yuliya, and Lobuntsova, Innocent Nnorom, Noémie Pralat, Michelle Wagner. 2024. *The Global E-Waste Monitor - 2024.* International Telecommunication Union (ITU) and United Nations Institute for Training and Research (UNITAR). https://ewastemonitor.info/wp-content/uploads/2024/03/GEM_2024_18-03_web_page_per_page_web.pdf.

Directorate-General for Financial Stability, Financial Services, and Capital Markets Union. 2018. *Technical Expert Group on Sustainable Finance (TEG). Finance.* June 13, 2018. https://finance.ec.europa.eu/publications/technical-expert-group-sustainable-finance-teg_en.

EFRAG. 2022. *ESRS E1 Climate Change.* November 2022. https://www.efrag.org/sites/default/files/sites/webpublishing/SiteAssets/08%20Draft%20ESRS%20E1%20Climate%20Change%20November%202022.pdf.

European Commission, Directorate-General for Financial Stability, Financial Services, and Capital Markets Union. 2016. *Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee, and the Committee of the Regions: Capital Markets Union -*

Accelerating Reform. Brussels: European Commission. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0601.

European Commission, Directorate-General for Financial Stability, Financial Services, and Capital Markets Union. 2021. *Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 Supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by Establishing the Technical Screening Criteria for Determining the Conditions under Which an Economic Activity Qualifies as Contributing Substantially to Climate Change Mitigation or Climate Change Adaptation and for Determining Whether That Economic Activity Causes No Significant Harm to Any of the Other Environmental Objectives*. Commission Delegated Regulation Volume 64. European Commission. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2021:442:FULL.

European Commission, Directorate-General for Financial Stability, Financial Services, and Capital Markets Union. 2023. *Commission Delegated Regulation (EU) 2023/2772 of 31 July 2023 Supplementing Directive 2013/34/EU of the European Parliament and of the Council as Regards Sustainability Reporting Standards.* Brussels, Belgium: European Commission. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02023R2772-20231222.

European Commission, Valdis Dombrovskis, Jyrki Katainen, and Christian Thimann. 2018. *Sustainable Finance: High-Level Expert Group Delivers Roadmap for Greener and Cleaner Economy.* European Commission - Press Release, January 31, 2018. https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_18_542/IP_18_542_EN.pdf.

European Parliament and Council of the European Union. 2014. *Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 Amending Directive*

2013/34/EU as Regards Disclosure of Non-Financial and Diversity Information by Certain Large Undertakings and Groups. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095.

———. 2022. *Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 Amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as Regards Corporate Sustainability Reporting*. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32022L2464.

European Union. 2021. *European Climate Law.* Climate Action. https://climate.ec.europa.eu/eu-action/european-climate-law_en.

———. 2023. *EU Voluntary Review on Progress in the Implementation of the 2030 Agenda.* Sustainable Development Goals. https://commission.europa.eu/system/files/2023-06/SDG-Report-WEB.pdf.

Gutiérrez, J. M., R. G. Jones, G. T. Narisma, L. M. Alves, M. Amjad, I. V. Gorodetskaya, and B. Zhou. 2021. "Atlas." In *Climate Change 2021: The Physical Science Basis: Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by V. Masson-Delmotte, P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, and B. Zhou. Cambridge: Cambridge University Press. http://interactive-atlas.ipcc.ch/

International Energy Agency. 2021. *Net Zero by 2050*. Paris: International Energy Agency. https://www.iea.org/reports/net-zero-by-2050. License: CC BY 4.0.

———. 2023. *Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach - Update 2023.* Paris: IEA. https://iea.blob.core.windows.net/assets/9a698da4-4002-4e53-8ef3-

631d8971bf84/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf.

IPCC. 2021. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* Cambridge, United Kingdom, and New York, NY, USA: Cambridge University Press. https://doi.org/10.1017/9781009157896.

———. 2023. *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* Synthesis Report. Geneva, Switzerland: IPCC. https://doi.org/10.59327/IPCC/AR6-9789291691647.

KPMG International entities. 2022. *The Corporate Sustainability Reporting Directive (CSRD)* Publication no. 138292-G. September 2022. https://assets.kpmg.com/content/dam/kpmg/de/pdf/Themen/2022/11/Thought-Paper-ESG-CSRD-Reporting-EN.pdf.

Lehmann, Marc, Xuezhen Guo, Ivica Marjanovic, and Bechtle. 2024. *Bechlte Geschäftsbericht 2023 - 40 Jahre Zukunftsstark*. https://reports.bechtle.com/geschaeftsbericht/2023/_assets/downloads/entire-bechtle-gb23.pdf?h=WA-kQCQy.

Loew, Thomas, Ludwig Glatzner, Sebastian Rink, and Lukas Dorsch. 2024. *Management von Klimarisiken in Unternehmen: Grundlagen, Anleitungen, Stand der Praxis und Empfehlungen*. http://www.umweltbundesamt.de/publikationen.

Mio, Chiara, Marisa Agostini, and Francesco Scarpa. 2024. *Sustainability Reporting: Conception, International Approaches and Double Materiality in Action*. Palgrave Studies in Impact Finance. Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-58449-7.

Munich Re. 2024. 2023 *Natural Disasters in Figures.* https://www.munichre.com/en/company/media-relations/media-information-and-corporate-news/media-information/2024/natural-disaster-figures-2023.html#:~:text=2023%20natural%20disasters%20in%20figures,average%20figure%20of%20US%24%20105bn.

Munich Re Service GmbH. 2023. "Location Risk Intelligence. Master the Physical Risks Caused by Natural Hazards and Climate Change." *Solution Overview.* https://www.munichre.com/content/dam/munichre/rmp/website-pieces/documents/RMP_Location_Risk_Intelligence_Solution_Overview_final_20230905.pdf/_jcr_content/renditions/original./RMP_Location_Risk_Intelligence_Solution_Overview_final_20230905.pdf.

OECD. 2024. "Pricing Greenhouse Gas Emissions 2024: Gearing Up to Bring Emissions Down." *OECD Series on Carbon Pricing and Energy Taxation*. Paris: OECD Publishing. https://doi.org/10.1787/b44c74e6-en.

Rogelj, Joeri, Solomone Fifita, Piers Forster, Maria Virginia Vilariño, Kejun Jiang, Elmar Kriegler, Roland Séférian, et al. 2018. "Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development." In *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways*, Chapter 2. Intergovernmental Panel on Climate Change (IPCC). https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15_Chapter2_Low_Res.pdf

Sisco, Cody, Blythe Chorn, and Peder Michael Pruzan-Jorgensen. 2015. "Supply Chain Sustainability: A Practical Guide for Continuous Improvement." UN Global Compact. https://d306pr3pise04h.cloudfront.net/docs/issues_doc%2Fsupply_chain%2FSupplyChainRep_spread.pdf.

Umweltbundesamt. 2021. *Klimawirkungs- Und Risikoanalyse 2021 Für Deutschland.* http://www.umweltbundesamt.de/publikationen.

———. 2023. “Monitoringbericht 2023: Zur Deutschen Anpassungsstrategie an den Klimawandel.” *Deutsches Klimavorsorgeportal*. Dessau-Roßlau: Umweltbundesamt. https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/das-monitoringbericht_2023_bf_korr.pdf.

———. 2024. "Umweltberichterstattung - Berichtsstandards." *09.2024*, February. https://www.umweltbundesamt.de/print/87250.

Zahidi, Saadia. 2024. *The Global Risks Report 2024.* 19th ed. Geneva: World Economic Forum. https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2024.pdf.

Appendix

A: Table of Figures

B: List of Abbreviations

AR6……..Assessment IPCC Report

Bechtle……...Bechtle AG

CSRD……..……..……Corporate Sustainability Reporting Directive

ESG……...Environmental, Social, and Governance

ESRS……..……...…European Sustainability Reporting Standards

EU……..……European Union

FTE……...…….Full-Time Equivalent

GHG…….Global greenhouse gas

GRI……...……Global Reporting Initiative

HLEG……High-Level Expert Group on Sustainable Finance

IEA……..…...International Energy Agency

IPCC……..……Intergovernmental Panel on Climate Change

NFRD……..…….Non-Financial Reporting Directive

NZE……...…….……Net Zero Emission

RCP…….…….….Representative Concentration Pathways

SSP……..……...…….Shared Socioeconomic Pathways

TEG…….Technical Expert Group on Sustainable Finance

C: Physical Risk Assessment: Supply Chain

The Physical risk assessment for the supply chain of Bechtle includes sourcing and sales regions. The sourcing regions were identified based on the purchasing volume of the suppliers and their sourcing location. The sales regions were identified based on the sales volume by customer location. Both KPIs can be analyzed based on internal systems. In total, twelve sourcing regions and six sales regions were defined.

Figure 5 Sourcing and Sales Regions of Bechtle AG.

Also for the supply chain, the risks are assessed based on the SSP5-8.5 scenario. The data are collected with the IPCC WGI Interactive Atlas. The regions are analyzed using the CMIP6 model projections that represent the latest scientific research for near-term (2021-2040), medium-term (2041-2060), and long-term (2081-2100) time horizons. The output format is similar to the Munich RE tool's output, which enables a comparison between site risks and value chain risks.

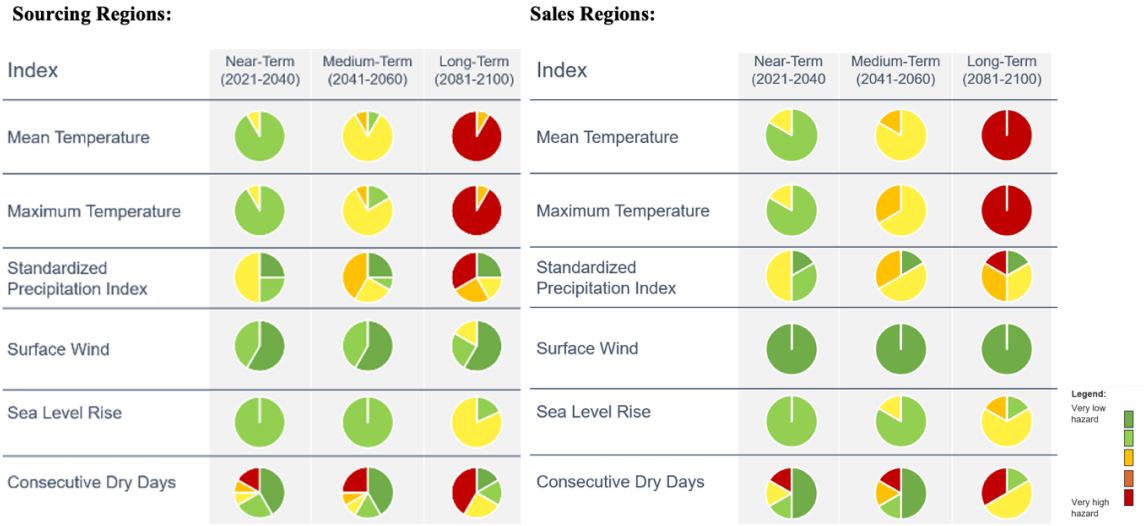

Figure 6 Physical Climate Risk Assessment Value Chain: Development under SSP5-8.5.

Sourcing Regions:

Looking at **Mean Temperature** and **Maximum Temperature** for sourcing regions, there is a parallel development. Near-term, only Western and Central Europe face medium hazards. This risk rises in the medium term with 83% of regions facing medium hazard for mean temperature and 75% for maximum temperature. By 2081-2100, nearly all sourcing regions will face high hazards. The **Standardized Precipitation Index** shows that 50% of the sourcing regions already face medium risk in the near term. By 2041-2060, this develops to 25% at medium hazard while 42% face high hazard. **Surface Wind** shows only low hazard in the near and medium term, it develops to 17% of sourcing regions facing medium hazard the long-term scenario. **Sea Level Rise** maintains low hazard through 2060, but then increases significantly to 82% of sourcing regions facing medium hazard by 2081-2100. **Consecutive Dry Days** present a hazard in near-term with 17% of regions facing very high risk. This increases to 25% of regions by 2041 - 2060 and 42% in the long-term scenario.

Sales regions:

Looking at **Mean Temperature** and **Maximum Temperature**, there is a parallel development as well. Both start with 17% of sales regions facing a medium hazard in the near-term scenario and develop to a state where all sales regions will face high hazard in the long-term scenario.

The **Standardized Precipitation Index** rises as well, from 50% of sales regions already facing a medium risk to 50% of regions facing at least a high hazard in 2081-2100. While **Surface Wind** remains consistently at no hazard across all periods, **Sea Level Rise** shows a slow progression from low to higher risks. Near term showing no hazard, the development in the SSP5-8.5 scenario leads to one region facing high risk in the long-term scenario. The last hazard, **Consecutive dry days**, differs stronger between regions. In the near term, 17% of all regions face a very high hazard. In the long-term scenario, this increases to 33%, while only 17% remain at low hazard.

Looking at the overall picture of the physical risk assessment of the supply chain, it shows a similar outcome as the assessment of the sites. The upstream supply chain mainly faces temperature-related hazards, as well as precipitation and drought risks. The risk of consecutive dry days mainly affects three regions in Brazil with very high risks, where Bechtle has only one supplier. That mitigates the expected financial impact. For the downstream supply chain, which only covers Europe and the United States of America, the risk hotspots until 2041-2060 are the same: temperature, drought, and precipitation. Consecutive dry days are especially relevant in the Mediterranean area. The expected vulnerability to Bechtle is relatively low since customer preferences in the IT sector are unlikely to be affected by physical climate risks.

In conclusion, Bechtle's supply chain is mainly affected by three risks: mean and maximum temperature, precipitation, and consecutive dry days. The expected impact is relatively low since in the upstream supply chain, the main affected regions are served by only one supplier, and customer preferences will not be affected. Since regulations do not require a further vulnerability assessment on these risks (unlike for the sites where a vulnerability assessment is required), the assumptions will be based solely on the gross risk and there is currently no material impact on Bechtle.