



Water Risks for Swedish Businesses

Scoping Study 2014

Nordea Asset Management • Swedish Water House • Stockholm International Water Institute

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SIWI-NORDEA SCOPING STUDY COLLABORATION

Nordea Asset Management and Stockholm International Water Institute (SIWI) have collaborated in conducting a scoping study that analyses how Swedish companies manage their water-related risks.

Nordea (NAM) is the largest asset manager in the Nordics and has €130 billion asset under management. In 2007, when Nordea signed the UN-PRI it formalised its commitment to Responsible Investments. Nordea (NAM) is exposed to water related risks through its long-term investments in companies. In order for Nordea (NAM) to ensure long-term success of its investments, it needs to have the knowledge of how companies manage these key risks.

Stockholm International Water Institute (SIWI) is a policy institute that generates knowledge and informs decision making for a water wise world. Swedish Water House (SWH) within SIWI is a platform for Swedish stakeholders that provides a meeting place for innovative thinking on emerging issues, knowledge dissemination and multidisciplinary policy development concerning the global water situation.

The Water as Financial Risk Platform at SWH specifically looks at how water can impose various types of risks to businesses throughout their value chains.

SCOPING STUDY PURPOSE

Swedish companies are often regarded as global leaders when it comes to responsible and sustainable business practices. This scoping study seeks to uncover the level of awareness on the Swedish companies in managing water-related risks. The scoping study is conducted with 13 of the largest Swedish companies listed at Nasdaq OMX.

The study aims to investigate the extent to which Swedish companies are aware of the risks exposed by water scarcity and water-related hazards,

such as flood and drought; the capacities that the companies have in managing these risks; their strategies and responses to address the risks; and the effectiveness of these strategies and responses.

This study presents the results of the scoping study based on semi-structured interviews with company representatives as well as data and information provided by participating companies.



WHY WATER RISKS ARE IMPORTANT TO BUSINESS

Water is the lifeline of any business activities and is found across the value chain from the extraction of natural resources, processing of raw materials, cooling, cleansing, energy production, office operation, product use, and recycling.

The availability of water affects the possibility of business continuity, facility expansion, and entrance into new markets. Inability to manage extreme water hazard risks, such as droughts or floods, could impose serious cost implications for businesses.

In addition, social and environmental problems arising from company's mismanagement of its water use can damage a company's reputation.

For financial institutions, water related risks imply lower returns on investments, declining asset value, or even loan default.

Global water trends predict that increasing population, economic growth, growing middle class and urbanization in emerging economies will entail even higher future water demand.

Given the same growth rate in water consumption and with no further efficiency gains, it is estimated that the global demand for water will grow from 4.5 trillion m³ today to 6.9 trillion m³ by 2030 (The 2030 Water Resources Group, 2009).

The prediction is 40% above the currently accessible and reliable water supply. At the same time, water scarcity brings about societal pressure that can undermine economic growth and development progress.

Industrial water use currently constitutes around 16% of global water use and it is projected to increase to 22% by 2030 as economies are developing toward industrialized countries.

Increasing competition across water uses is a future certainty, then it is likely that higher priority will be allocated to domestic and agricultural water use in most countries. This means that businesses will face the hardest competition.

The Global Risk Report 2014 reveals business concerns over water security. The report identifies water as the third global risk of highest concern (World Economic Forum, 2014).

PWC's 2012 survey of 141 CEOs worldwide shows that 65% affirmed that water scarcity was quite or very important in 2012. That percentage rises to 78% for the year 2022. The extent of the risk is exemplified by Morgan Stanley Capital Index Environmental Social and Governance (MSCI ESG) Research that points out the total value of sales or reserves at risks from water scarcity amount to USD 221 billion for All Country World Index (ACWI) goldminers, USD 20.7 billion for MSCI US Investable Market Index (IMI) electric utilities, and USD 17.2 billion for MSCI ACWI steel producers.

Moreover, the abstraction of fresh water for business also imposes high externality costs. PRI conducted a study on large institutional investors or "universal owners" that measures externality costs from five sectors (electricity, oil & gas, industrial metals & mining, food producers, and construction & materials) representing 60% of all externalities from the largest 3000 listed companies.

The study demonstrates that externality costs from water abstraction amount to USD 1.226 trillion annually or 2% of global GDP in 2008 and are projected to rise to USD 4.7 billion or 2.9% of global GDP in 2050 (PRI, 2010).

To ensure business continuity and meet future market demands, companies should take a more proactive and broader water-related risk reduction strategy that also includes their supply chain. Institutional investors should also exercise ownership rights and encourage the required investment in natural capital to maintain the economy and secure long term investment returns.



TYPES OF WATER RISKS FOR BUSINESS

There are a number of water related issues that pose challenges for business: water scarcity, reliability, pollution, water quality issues, flood, environmental liabilities, the rights of indigenous people, extreme events and climate change and variability (UNEP FI, 2006).

These issues represent both physical as well as social factors locally, at the source of water. Water resource issues are then translated into various forms of water-related risks for businesses.

1. UNEP FI, 2006, "Financing Water: Risks and Opportunities", An Issues Paper.

WATER-RELATED RISKS FOR BUSINESS

OPERATIONAL RISKS • Companies face escalating production costs due to decreasing reliability and availability of water. This might be due to higher abstraction costs to access increasingly scarce water resources, higher water costs from public utilities, higher energy prices, or higher water treatment costs.

MARKET RISKS • As customers and clients are increasingly concerned with environmental impacts, companies can lose market shares to competitors that offer products with a lower water footprint. Taking a proactive approach in managing risks and the ability to provide innovative solutions and services that minimize water risks provide companies with competitive advantages.

REPUTATIONAL RISK • Public concerns regarding unsustainable and inequitable use of water by companies can damage their identity and threaten their existence. Reputation building requires

increased engagement in managing company's water footprint that reaches to suppliers and working with stakeholders in managing water risks.

REGULATORY RISK • As governments are anticipating increasing water scarcity and more unpredictable water variability, companies are exposed to tightening government intervention and regulation. Regulatory risks can also take the form of a lack of capacities in water governance that causes higher water costs for businesses.

POLITICAL RISK • Issues of water as a human right, equity, corruption, conflicts over resource use, and governance can pose significant risks and costs in short or long term to businesses.

FINANCIAL RISK • All the risks above may translate into reduced revenues, lower investor confidence that leads to more restricted access to capital, higher loan rates, or higher insurance premiums.

Forward-thinking companies address their water footprint and reduce externality costs as a way to reduce their long term business sustainability risk. Institutional investors need to ensure that water-related risks do not pose long term financial risks to their portfolios. Insurance companies should work proactively in order to reduce claims and to keep premiums low.



WATER RISKS AS OPPORTUNITIES FOR BUSINESS

Companies that proactively respond to the challenge of global freshwater scarcity can turn risks into opportunities. Increasing water scarcity and higher requirements regarding water management can drive innovation toward water smart technologies, (for example in water supply, wastewater treatment, network and distribution, water efficiency, and recycling) and water smart services (such as catchment management, wetland creation and maintenance, watershed monitoring and management).

Frontrunners in water-related risks can also gain competitive advantages by taking the lead on product transparency, establishing specific and measurable water-related targets, and demonstrating actual improvements in managing water-related risks.

WATER RISK TOOLS

There are plenty of tools that can facilitate companies in assessing their water-related risks. WBCSD (2012) provides guidelines that help companies select suitable tools to meet their needs. These tools are categorized into five groups that reflect the stages of corporate water management.

2. WBCSD, 2012. Water for Business. Initiatives guiding sustainable water management in the private sector.

FIVE TOOLS FOR WATER-RELATED RISKS

1. Assessing the global and local water situations, e.g. WBCSD Global Water Tool, WRI Aqueduct, and WWF Water Risk Filter.
2. Accounting for and understanding impacts, e.g. WFN Assessment Tool and Manual, GEMITM Local Water Tool, ISO Water Footprint: Requirements and Guidelines.
3. Identifying specific water risks and opportunities, e.g. UNEP Finance Initiative: CChief Liquidity Series, WBCSD Global Water Tool, WRI Aqueduct, and WWF Water Risk Filter.
4. Determining action and setting targets, e.g. Ceres Aqua Gauge, European Water Stewardship Standard, Alliance for Water Stewardship.
5. 5) Monitoring and communicating performance with internal and external stakeholders, e.g. CDP Water, GRI Water Performance Indicators, UN CEO Water Mandate.



INDUSTRIES AT RISK

The energy, materials, consumer staples and utilities sectors are the most exposed to substantive water risks in 2013 according to CDP global water report. The risks are both financial and operational. Several opportunities were also identified in the report.

The CDP report suggests that the energy sector should continue to explore innovative water treatment technologies and water recycling/reuse, the materials sector should continue to explore innovative water treatment technologies, the consumer staples should continue to engage with suppliers on the water issue and the utilities

sector should continue to focus on improving performance in relation to management and governance indicators such as development of water policies, strategies or plans and concrete targets.

According to industry-level data from the Canadian Industrial Water Survey, EIRS' EIO-LCA model, and water intensity data collected by MSCI ESG Research, companies in the Utilities (including water and electric), Food and Beverage, and Metals and Mining industries have the highest water intensity.

SECTOR & COMPANY INITIATIVES

There are a number of sector initiatives to manage water-related risks, such as:

MULTI-SECTOR INITIATIVES • For instance: Better Cotton Initiative that aims to use 50% less water, 50% less pesticides, and 30% less chemical fertilizers in cotton farming, engaging 302 members including H&M, Ikea, Adidas and more.

BEVERAGE COMPANIES INITIATIVE • For example the engagement of barley growers in improving water efficiency and developing drought-resistant varieties by brewers such as Carlsberg, SABMiller, Molson Coors and more.

TEXTILE INDUSTRY INITIATIVES • For example: Bangladesh Water PaCT, a partnership for cleaner textile in Bangladesh³.

Better Mill Initiative⁴, which focuses on capacity building, multi stakeholder dialogue and awareness raising, including resource (energy and water) efficiency.

Swedish Textile Water Initiative (STWI)⁵ engages 35 companies that aim to improve water efficiency, water pollution prevention, and better waste water management at the supply chains.

3. www.textilepact.com

4. <http://www.solidaridadnetwork.org/solidaridad-launches-better-mill-initiative>

5. <http://www.swedishwaterhouse.se/en/STWI/>

Several companies drive their own water initiatives. H&M entered into a three year partnership with WWF to implement a water stewardship strategy. Recognizing that its largest water impacts and risks are in raw material production and wet processing in its supply chain, the strategy to address those impacts and risks will be implemented across all markets.

The strategy goes beyond factory fence lines with the two organisations working in selected key river basins to address water governance through collective action. Unilever has developed detergents that require less water for every wash and has set a target to provide 50 million households in water-scarce regions with such detergents by 2020.



CURRENT PRACTICE

SCOPING STUDY METHODOLOGY

To provide preliminary insights on the level of awareness of Swedish companies across different sectors with regard to their water related risks and how they manage these risks, this scoping study was focused on some of the largest Swedish companies listed in Nasdaq OMX Nordic.

Thirteen companies responded and took part in the study. These companies represent banks and financial services; industrial goods and services; health care; telecommunications; personal and household goods; and retail.

The study used a semi-structured interview method in which the interview was conducted following a list of questions, while allowing respondents to provide further information not necessarily captured in those questions.

These questions comprise information on four main aspects:

1. *Risk awareness*
2. *Risk assessment*
3. *Current risk response strategy and program*
4. *The results of current risk response strategy*

The interviews were performed during September–November 2013. Interview notes were sent back to participating companies for comments, inputs, and approval before being used for analysis.

Considering the limited number of participating companies, the results of the scoping study should be seen as a snapshot of how large Swedish companies manage their water related risks, rather than as a precise description on how relevant sectors are aware, assess, and manage those risks.

Taking into account different significance of water-related risks across sectors, the analysis of the study below is organized into two main categories of sectors: financial services (four companies) and non-financial services (nine companies).



SCOPING STUDY FINDINGS FOR THE FINANCIAL SERVICES

RISK AWARENESS

This study found that on a Group level, the participating companies from the financial sector have experienced limited indirect water-related risks in the past. One company mentioned direct risk in terms of flood incident even though it was not financially substantial.

Water related risks for the financial sector are mainly indirect and related to investments and credit lending. One respondent mentioned that the company had been exposed to water related risks through a number of their project finance transactions. These risks were related to access to clean water, water scarcity, water pollution, salt water intrusion, and the political risk of conflicting objectives between portfolio companies and local communities.

Half of the respondents from financial sector appraise that their water-related risks will not increase in the future, while the other half consider that they will increase to a limited extent. One respondent also mentioned the increasing attention from the bank's stakeholder to address water-related risks as part of its environmental risk assessment within credit lending and investment.

The impacts of water-related risks can take the form of potential financial loss for customers, rising internal costs, declining value of portfolio companies, and negative brand value for investors.

RISK ASSESMENT

In general, participating companies do not have a specific risk assessment method or monitoring system for water related risks. Water issues are addressed as part of risk assessment for credit analysis, asset management, or supplier management, when they are considered material.

One company has included specific water-risk questions for credit lending, specifically for high risk sectors and regions, and as part of

environmental risk assessment for their sustainability funds. Companies mostly commit internal resources for annual risk assessments, although external resources might be used for some specific cases.

RISK RESPONSE STRATEGY & PROGRAM

Three respondents have developed sector key risks papers and/or position papers on high risk sectors and geographic regions, which address water risks when relevant. These are used by the companies to guide their investment and credit lending decisions.

One respondent has developed a Group position statement specifically on water related risks. Another company has specific water-risk questions in their credit lending, such as water footprint reduction, water quality, or water-related risks to product markets when relevant. Another respondent looks at the issue of disaster preparedness that includes flood risks.

Half of the participating companies have a risk management system for their suppliers that might include water-related risks when relevant. One company has a legally binding Code of Conduct for suppliers, in which it specifically mentions water issues.

Risk assessments that include water-related risks are conducted mostly annually using internal resources, or biannually when there are no major risks. One company conducts risk assessment every 6 months for their targeted suppliers. Following GRI, most respondents also report on water use in their annual report.

When water risks are considered substantial, one company monitors the risks through their contingency management. Another company intends to monitor water risks by looking at the implementation of “position paper” in credit evaluation.

The key drivers for companies to develop risk response programs are mainly related to understanding their customers’ risks, reputational risks among stakeholders, and mitigating financial risks.

RESULTS OF RISK RESPONSE STRATEGY

None of the respondents has developed KPIs related to water risks, which makes it difficult to adequately measure the effectiveness of their

risk response strategy (indirectly measured in amount of credit losses due to water risk that materialize).

CHALLENGES IN IMPLEMENTING RISK RESPONSE STRATEGY

- Convince Nordic inhabitants that water can be a material risk.
 - Monitor how sustainability analysis is implemented and affect decision making at the branch level.
 - Provide staff with the competence to understand the link between business and environmental risks.
 - Communicate the relevance of sustainability issues and integrate them into business decision making.
-

An additional benefit to companies relating to good management of water risks is that it improves their reputation among stakeholders. In addition, having a better understanding of its customers and their risks is an opportunity in itself because it means that the bank is relevant to their

customers and can provide the right type of services for them. Managing risks also positions companies to be most profitable and sustainable over time.



SCOPING STUDY FINDINGS FOR THE NON-FINANCIAL SERVICES

RISK AWARENESS

There is a high level of risk awareness among the companies that are exposed to water risks. Three companies that have not experienced water related risks in the past acknowledge the increasing water related risks. Although flood risks are most commonly experienced in the past, water scarcity risks cause most concern for the companies.

All participating companies perceive that water scarcity will be increasing in the future, with implication on increasing water-related costs. Nevertheless, all participating companies view that these risks will not be major in magnitude. These risks are not only limited to their operations but also extend to their supply chains.

Companies expressed increasing need in managing their supplier's water related risks and some of them already have a system in place to work with Tier 1 suppliers on managing these risks. One company even raised the importance of addressing the issue of water as a human right risk within the supply chain and how this issue can potentially have increasing importance in the future.

The respondents mentioned the regions where increasing water scarcity risks will transpire are Asia (India and China), the Middle East (Egypt), the US, South America (Brazil, Argentina) and Europe (Germany, Italy).

Five of the participating companies in the non-financial services also see flood risks increasing in the future both in operations and supply chains. Flood risks are managed as part of overall facility or site level risk management and insurance process.

One company mentioned the need of diversifying flood risk at supply chain. Nevertheless, flood risks are currently not part of companies' supply chain management.

The impacts of water related risks can transpire in various forms but they are more significant at the facility level.

These impacts are operation disruption, higher water costs, regulatory risks that might also cause market risks (changing product demand), short term delivery disruption, temporary close down from flooding, long term operational disruption, reputational risks and fire damage risks due to the lack of water for fire-fighting. At the group level, the impacts are perceived to be non-significant financially.

RISK ASSESSMENT

A majority of the participating companies have a risk assessment method that specifically or partially address water related risks. Most of the participating companies have mapped water-related risks against the location of their facilities. Some companies use FAO Aquastat, WWF Water Risk Filter. Water is also part of due diligence for entering new markets.

One company is in the process of finding the right tool to map and identify water related risks, while one company treats water related risk as one of environmental aspects within their safety, health and environment (SHE) audit program.

Four of the participating companies have in place or are considering a very structured, bottom-up, risk assessment method to manage water-related risks.

Water tools that companies use to develop their own water risk assessment methods are WBCSD water tool, WRI Aqueduct, and water footprint. These assessments are conducted or intend to be conducted regularly, either annually or bi-annually, by both internal and external resources.

For certification and more case-specific risk assessment, external resources are employed. Only one company has a specific internal system to monitor water-related risks. For the rest, water-related risks are monitored as part of site level risk management plan. This monitoring system also does not cover the supply chain.

RISK RESPONSE STRATEGY & PROGRAM

All participating companies report on their water accounting system according to GRI. At the group level, all companies report on water use in their annual report. Seven of the companies include other measurements, such as surface water withdrawal, wastewater costs, COD load, waste water quality, water recycling and effluents.

More specific information is also collected at the site level, such as water costs, water use per product, and water for fire-fighting. Two participating companies took part in CDP's annual water reporting.

Seven of the companies currently have specific strategies and programs to manage water-related risks. These programs comprise of site level programs, e.g. training, water use reduction, reduction of chemicals use, water recycling, rain harvesting, insurance program on managing flood risks; and supply chain risk management programs, such as training, certification, environmental performance improvement.

One company has an overarching water stewardship program from micro level (supplier production sites) to basin level. Building long term engagement with the suppliers is seen as a key issue in managing risks at the supply chain.

Companies' current risk response strategies and programs mainly address water scarcity risks for water supply, water pollution or fire-fighting, and to a lesser extent targeting flood risks. The programs generally aim to reduce costs, enhance brand value, and ensure business continuity.

One company aims for a systemic change in integrating water risks, higher engagement with communities and spreading good practices across the industry. A few companies have specified quantitative targets for water reduction and management.

A number of drivers motivated companies' responses to water related risks. These include reducing business and insurance costs, the ability to predict the time and scale of risk manifestation, fulfillment of sustainability as one of business' values, social responsibility, increasing demand from stakeholders and anticipating climate change impacts.

RESULTS OF RISK RESPONSE STRATEGY

Seven of the participating companies are confident that their risk response strategy and programs are effective. Nevertheless, it is quite difficult to quantitatively assess this effectiveness because some of them are still quite early in implementation and some of them have not set a quantitative target.

Four companies have quantitative targets for water use reduction at group level within five year time. Measuring effectiveness is considered more realistic at facility level where specific risk response strategy is implemented. All companies highlighted the challenges in implementing programs to manage water related risks.

MAIN ISSUES MANAGING WATER RELATED RISKS

- Determining the extent of the risk that justifies investments in water risk response strategy as well as high investment costs for some programs.
- Setting a flexible and applicable standard/approach at group level for highly diverse and global business entities against the specific nature of water-related risks.
- Taking time to introduce and generating better understanding on the issue of water related risks.

Most companies do not specifically measure the payback period of their investments in managing water-related risks, but they believe it will be less than 3 years. Some companies believe that it takes longer to change behavior and raise awareness. Management of water risks can be part of brand building.

Almost all companies recognize that managing water-related risks can yield co-benefits and provide opportunities. Such co-benefits are enhanced cost reduction, social/environmental benefits, brand strengthening, stakeholder

engagement, product development and building competence of managers in addressing long-term strategic issues.

Managing water related risks also provides opportunities to winning contracts, product innovation and low hanging fruits of efficiency improvement measures.



CONCLUSIONS

A number of conclusions of the scoping study.

- There is a broad awareness of water related risks within participating Swedish companies. However, there is a much higher level of concern regarding current and future water related risks for companies in the non-financial sector. This is commensurate with the direct or indirect nature of water-related risks companies face and the perceived level of risks.
- Companies from the non-financial sector generally conduct more proactive water risk assessment than those from the financial sector. Risk assessment methods vary by company and include water risk mapping and specific water tools.
- Considering the different nature and extent of perceived water-related risks within financial and non-financial sector, companies' risk response strategy can take the form of general guidelines (position statement) or much more specific programme at the facility or regional level.
- Most companies believe that they have effective water risk response strategies in place, but only a few have quantified targets or specific KPIs to measure the effectiveness.

- The main challenge developing a proactive water risk response strategy is making water risk a priority issue to justify investments, especially in Nordic region.
 - Brand value, business continuity, cost control and stakeholder demand are the main drivers for companies in managing water-related risks, while innovation is seen as the main opportunity arising from taking risk response strategy.
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QUESTIONS THAT MERIT FURTHER THOUGHT FOR ENHANCING BUSINESS'S RESPONSES IN MANAGING WATER-RELATED RISKS:

- Since companies responses are determined by the assessed level of water-related risks, how can we generate a better understanding on the threshold of "material risk" and the method to assess this risk? Has the assessed risk level considered long term and aggregated impacts at the basin level? A failure to take into account the full scale and form of water-related risks might be very costly for business continuity.
 - There is a need for increased transparency on water risks and meaningful water-related KPIs in companies' reporting system that will help them in improving their response strategy and provide clear information for investors. The current GRI system on water variables might not fully capture these risks and there is a need to have common harmonized KPIs that can better capture them.
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This scoping study reveals that Swedish companies have different level of awareness and responses in managing water-related risks. It also shows that a number of challenges and issues still remain before Swedish companies can feel comfortable about the effectiveness of their strategy in managing water-related risks.

Hopefully, this study provides valuable insight for businesses and public entities to advance discussion on the issue and encourage improved responses and synergies to manage water-related risks.



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