Stewardship team

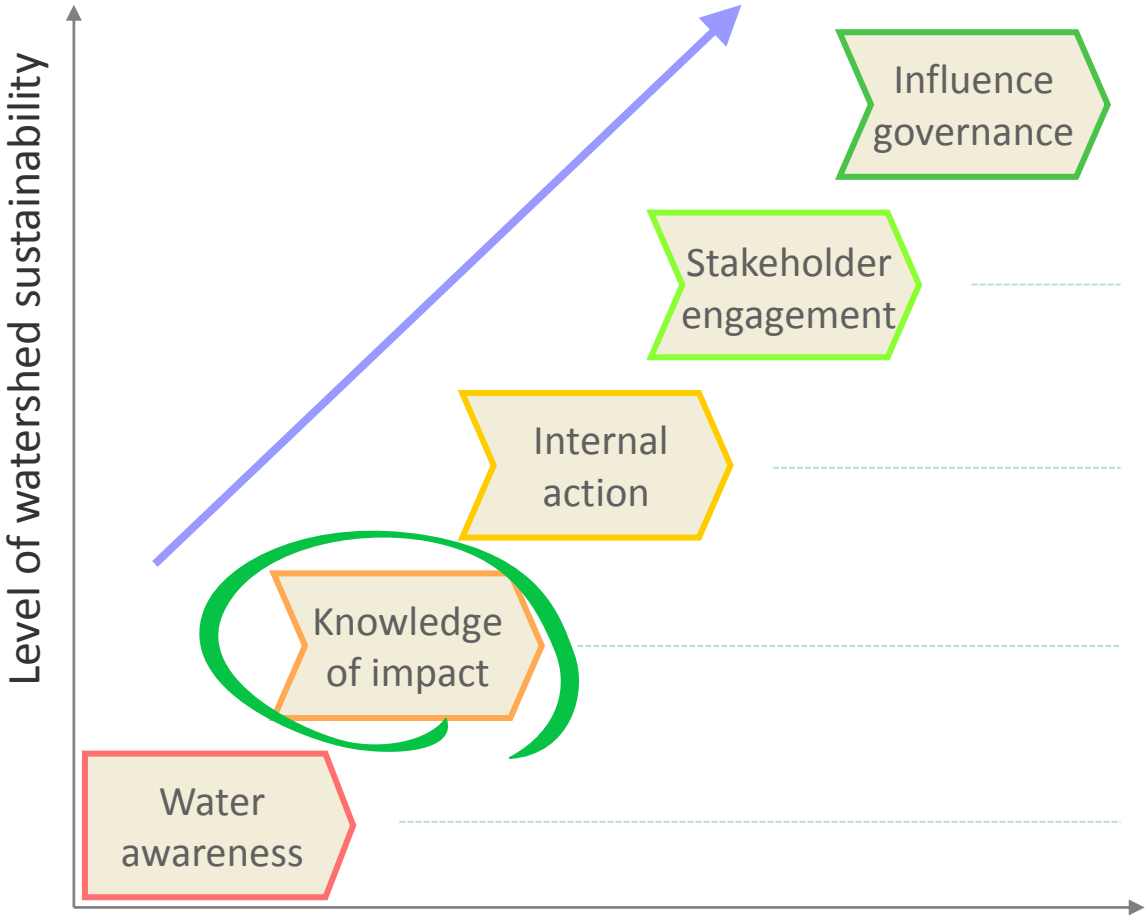
WWF-DEG Water risk filter

CEO Water Mandate

16 May, 2011

Jochem Verberne, WWF International

WWF works with companies on a Water Stewardship journey towards sustainable river basins



Role of WWF:

Identify policy gaps
Set up PPPs to strengthen institutional capacity
Develop policy guidelines

Support development of basin and global governance platforms
Develop Stewardship standards
Build business cases in pilot basins

Develop innovative actions
Collect and share best practices

Drive Water Footprinting
Thought-leadership on water risks
Stimulate corporate disclosure
Map companies in basins

Investigate - educate

See Appendix for more information

WWF-DEG Water Risk Filter project to turn ‘red into green’

Development of Water risk filter

- to assess the exposure to water related risks of investment portfolio, covering **all** industries and **all** countries in the world
- to be shared with other organizations to turn ‘red into green’, not for go/no-go decisions

Holistic approach: should cover all relevant water risk indicators

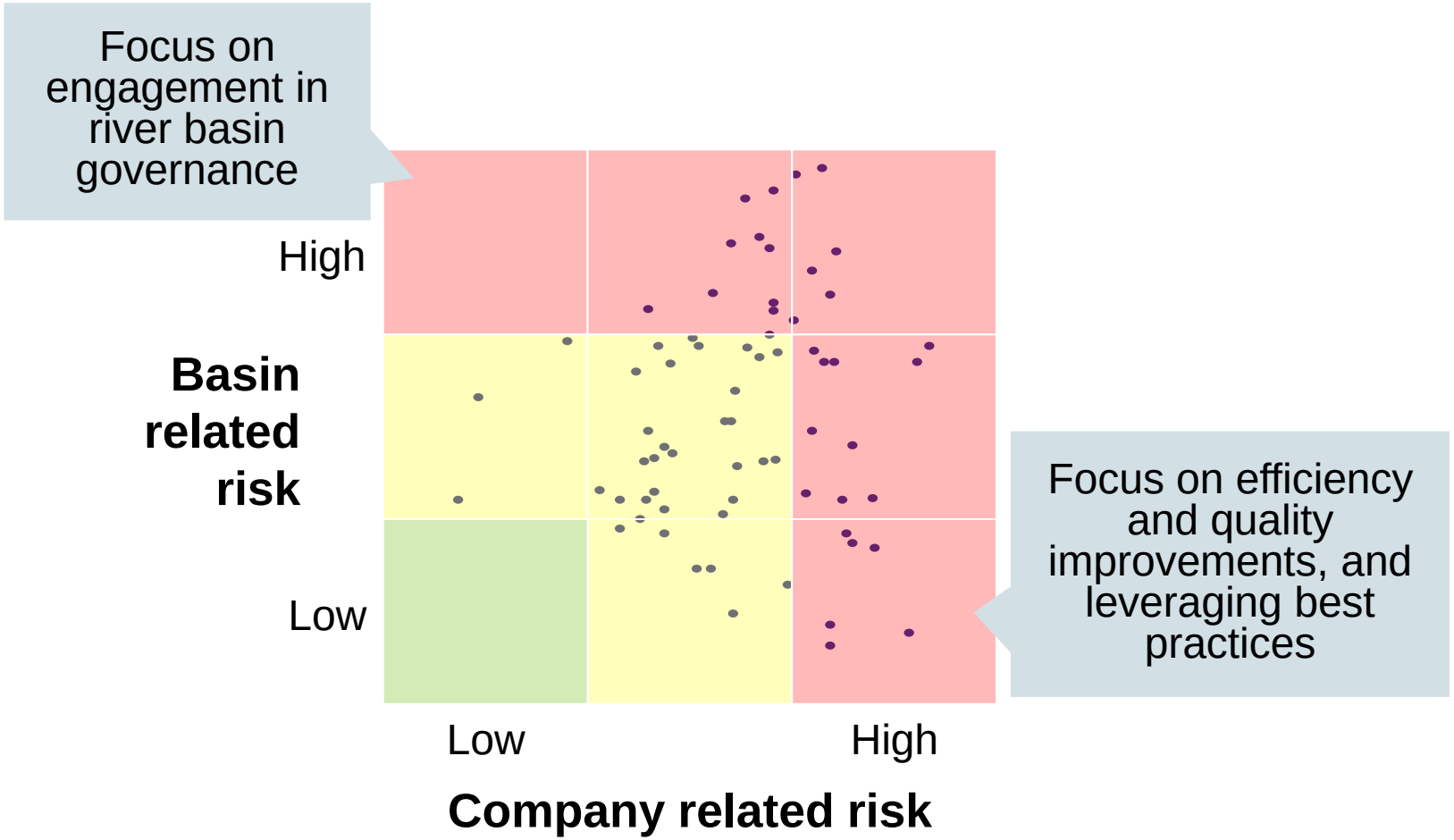
- Basin and Company (direct operations and supply chain) aspects
- Physical (quantity, quality, ecosystem impact), Regulatory and Reputational risks

Balance: easy-to-use tool fed with scientific data

Input data:

- Client company database
- Results client company online survey
- 81 new and detailed country data sets, quantitative and qualitative
- 57 industry data sets
- World Resources Institute (WRI) global basin information database
- New global GIS maps

Results on portfolio level

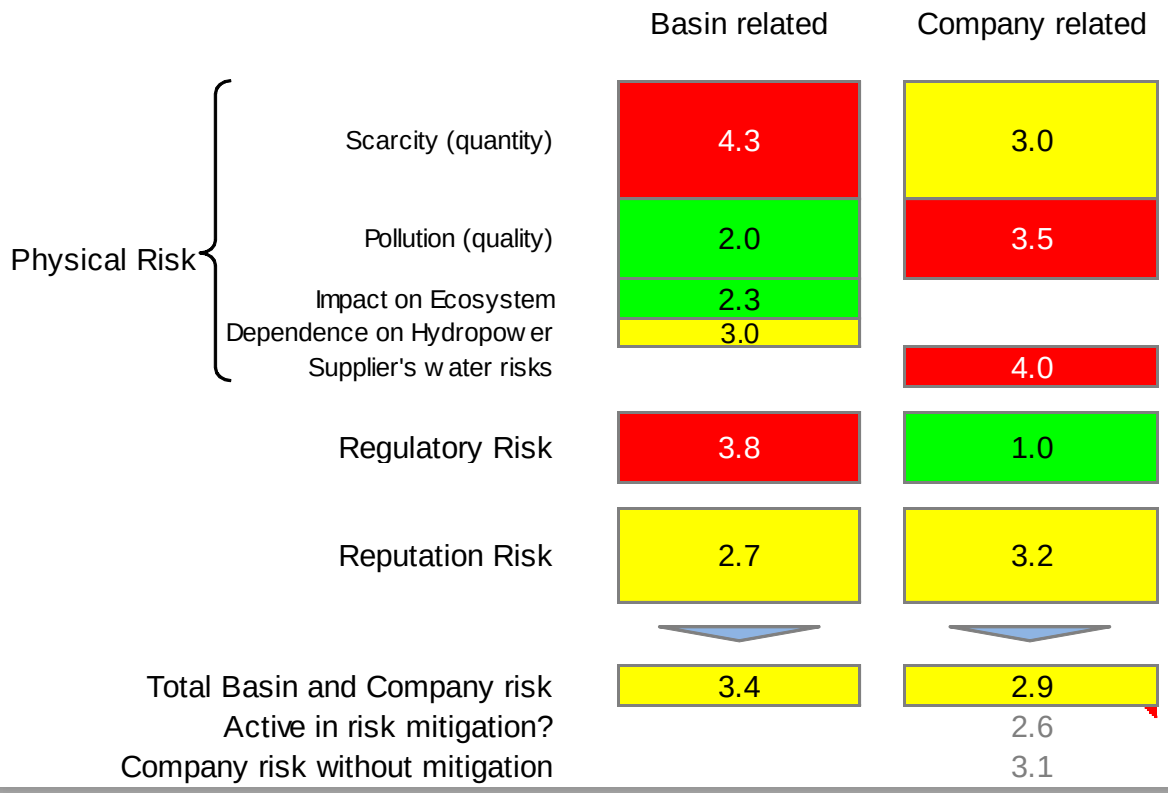


Heat maps on company level provide more insights (I)

RESULTS SPECIFIC COMPANY: *CONFIDENTIAL*

Select company&location number:

2892-1 *CONFIDENTIAL*

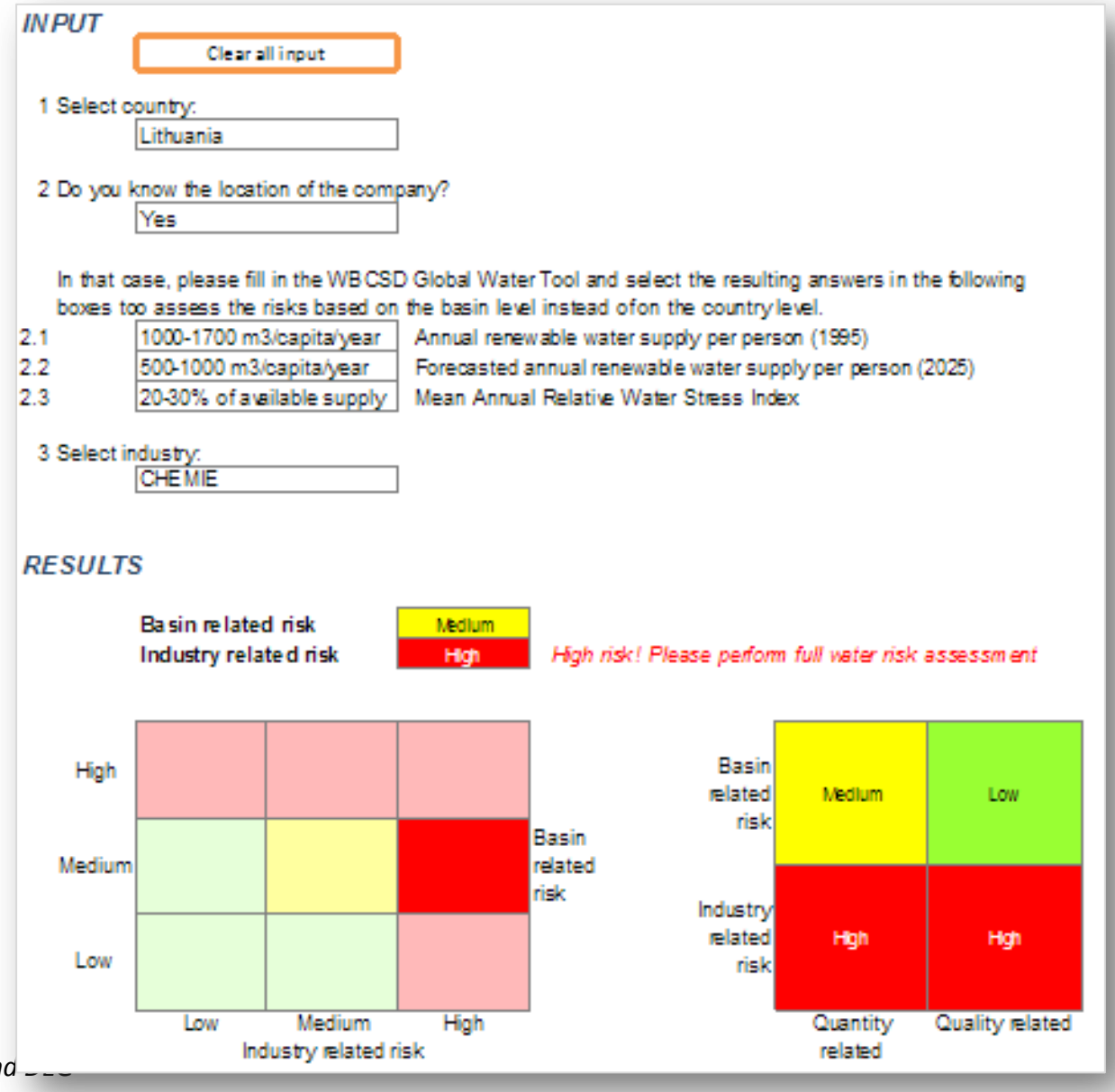


Heat maps on company level provide more insights (II)

Basin specific risks for *CONFIDENTIAL*

Risk	Risk Item	#	Question	Score	Answer
Physical	Scarcity (Quantity)	1	Water availability (qualitative)	3	Vulnerable
		2	Freshwater availability per capita	5	<500 m3/capita/year: Extreme water scarce
		3	2025 water availability per capita	5	<500 m3/capita/year: Extreme water scarce
		4	Withdrawal as % of availability	2	Demand is 10-20% of available supply: Sufficient
		5	Impact climate change	4	Water is predicted to be less available with a risk of increased
		6	Impact of droughts	5	>25% of the country affected by a
		7	Impact of floods	4	High risk of flooding
	Pollution	8	Water pollution	2	Low probability, low severity of

Pre-assessment tool
High level risk indication in minimum time



INPUT

Clear all input

1 Select country:
Lithuania

2 Do you know the location of the company?
Yes

In that case, please fill in the WBCSD Global Water Tool and select the resulting answers in the following boxes too assess the risks based on the basin level instead ofon the country level.

2.1	1000-1700 m3/capita/year	Annual renewable water supply per person (1995)
2.2	500-1000 m3/capita/year	Forecasted annual renewable water supply per person (2025)
2.3	20-30% of available supply	Mean Annual Relative Water Stress Index

3 Select industry:
CHEMIE

RESULTS

Basin related risk: Medium
Industry related risk: High

High risk! Please perform full water risk assessment

Used risk definitions

Physical risk

Relates to water quantity (scarcity and flooding), water quality that is unfit for use (pollution), the impact of both quality and quantity on the surrounding ecosystem. On a company specific level, it also includes the physical risks of suppliers.

- Potential causes as lack of basin governance or of enforcement of water legislation is included in Regulatory risk

Regulatory risk

Relates to the imposition of restrictions on water use by government. This may include the pricing of water supply and waste discharge, licenses to operate, water rights, quality standards etc.

- In this project, lack of basin governance is also part of Regulatory risk
- In this project, the risk relating to the potential for conflict or political disagreement over transboundary river basins, or national political imperatives, such as trade restrictions on food crops with embedded water are part of Regulatory risk for simplicity reasons (defined by Lloyd's as Geopolitical risk)

Reputation risk

Relates to the impact on a company's brand and that can influence customer purchasing decisions. Manifests through tensions and conflict around access to water or the degradation of local water resources. In a highly globalised information economy, public perceptions can emerge rapidly around business decisions that are seen to impact on aquatic ecosystems or local communities' access to clean water.

- Under socially and politically unstable conditions, companies may be blamed by local stakeholders just because they provide an easy target (Coca Cola example)
- In this project, the tensions around local access to water or local water degradation are part of Reputation risk for simplicity reasons (defined by Lloyd's as Community risk)

Example of underlying data: 81 country data sets, entire world will be covered before 2012

COUNTRY DATA SETS				Kenya
Physical Aspects	Water Quantity	Freshwater quantity	Water resources: total internal renewable per capita	534
			Water resources: total external renewable per capita	258
			Water resources: total renewable per capita (actual)	792
			Water Availability	500-1000 m3/capita/year
			Water availability (Total water withdrawal per capita)	72.44
			Groundwater Recharge	1
			Groundwater Abstraction	1
			Total dam capacity	4.079
			Water Stress	1.1
			WPI	47.3
			Total Water Footprint Gm3/year	21.23
		Hazards and Climate Change	Drought Incidence and Severity	5
			Impact of droughts	High annual risk, with strong negative impact
			Impact of floods (Classes)	4
			Impact of floods	High risk
			Climate Vulnerability	4
			Impact of climate change	Vulnerability Index: 4 of 4: Strong impact
	Water Quality		WQI_pt	57.9
			Water quality	High probability, low severity
			Disolved Oxygen Concentration	6.83
			Phosphorus concentration	0.58
Health			EVI	At risk
			ESI	45.3
			EPI	51.4
			WATER_E	62.8
			Threats to aquatic ecology	Environmental Vulnerability Index: At risk, Environmental Performance Index: 51.4 out of 100, Effects of water on ecosystems: 62.8 out of 100
			Endangered Species Protection	65
			Wildness	39.01
			Safe Drinking Water	57
			CAP_GOV	-0.37
			Proxy for: Water strategy	Environmental Governance (ESI Sub index): -0.37, of range -1-+1
			Bertelsman Transformation Index	4.53
			Corruption Index	2.1
			Groundwater Problems	2
			Environment Agreement Compliance	0
Geopolitical Aspects			Dependency ratio	32.57
			Surface water: inflow secured through treaties (actual)	0
Other Aspects			Electricity generation (Billions kWh)	5.568
			Hydroelectricity Generation (% total)	51.53
			Electrical outages	83.6

Each country data set includes quantitative indicators ...

...as well as qualitative description of local context

In principle, this filter can be used by financial institutions (and other industries) for any global portfolio

In principle, this filter can be used by any investor/financial institution

- Future versions aim for providing as much insights as possible without need of client survey
- Even minority investors can (together) demand transparency and improvements in corporate reporting

This filter can be tailored to suit specific other industries outside financial sector for assessments across the globe

- In the final phase, weightings will be adjusted per industry, and country data sets will be expanded to cover the entire world

Some of the feedback so far

DEG

- Very enthusiastic about model to quantify risks and about usability
- Now we can and should start to work with our investments to actually improve things

Development banks

- Can we be part of further development?
- As mainly majority investors, this is exactly what we are looking for since long

Commercial banks

- Comprehensive tool with correct risk mathematics
- Difficult for minority investors to demand from client companies to fill in surveys
- (Bloomberg) Can we talk about your database?

Other industries

- Next version should have different weightings per industry
- Please make it available for our industry as well

NGO's / scientific organizations

- This is first complete risk assessment tool, no key element is missing
- Highest level of granularity currently available for all basins
- We should co-operate …

Final phase of Water Risk project starts now, ready in January 2012

Improve risk filter for use by FI's and other industries

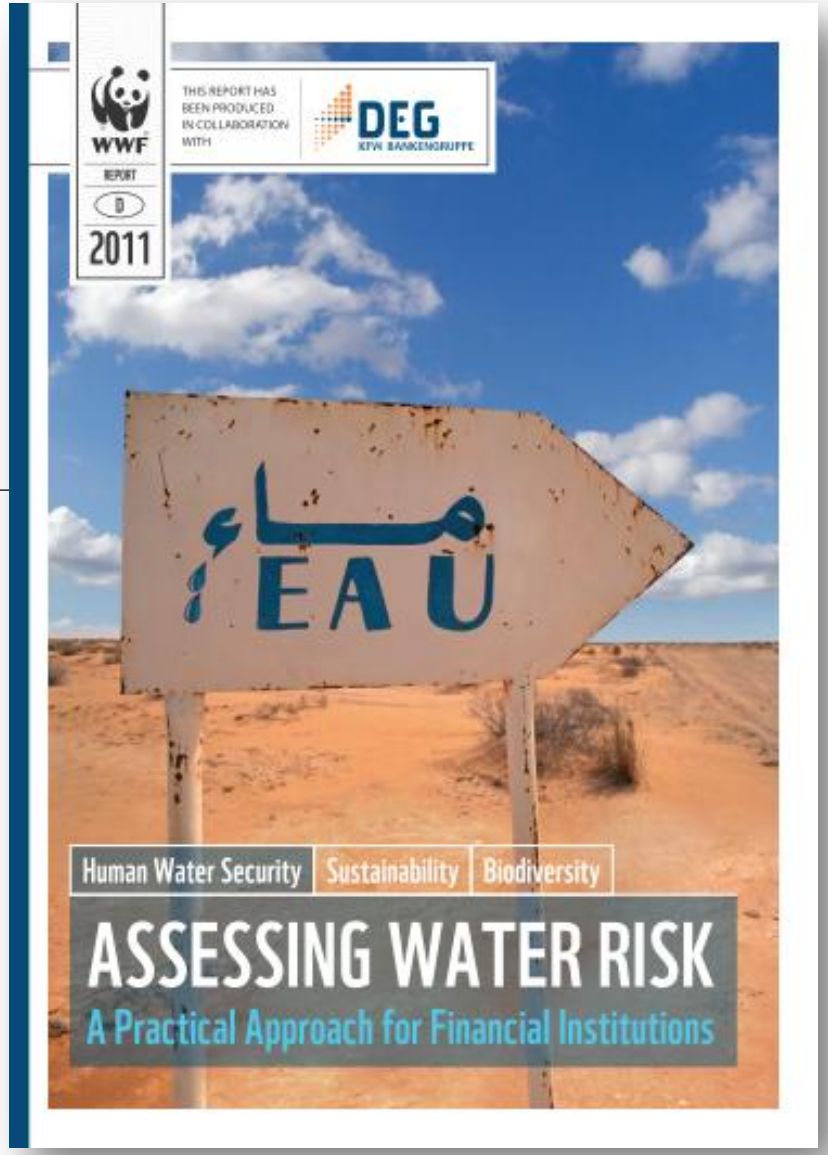
- Underlying data sets
- Alignment on risk definitions, data sources and corporate disclosure questionnaires with WFN, WRI, and CDP
- More detailed supplier risk assessment
- Second round of testing
- From Excel to web-based application

Prepare 'mitigation toolbox'

- 'Know your risks and know what to do'
- Ranging from public policy engagement to technical assistance

Water Risk Filter and Mitigation Toolbox will be ready to be shared with other parties in January 2012

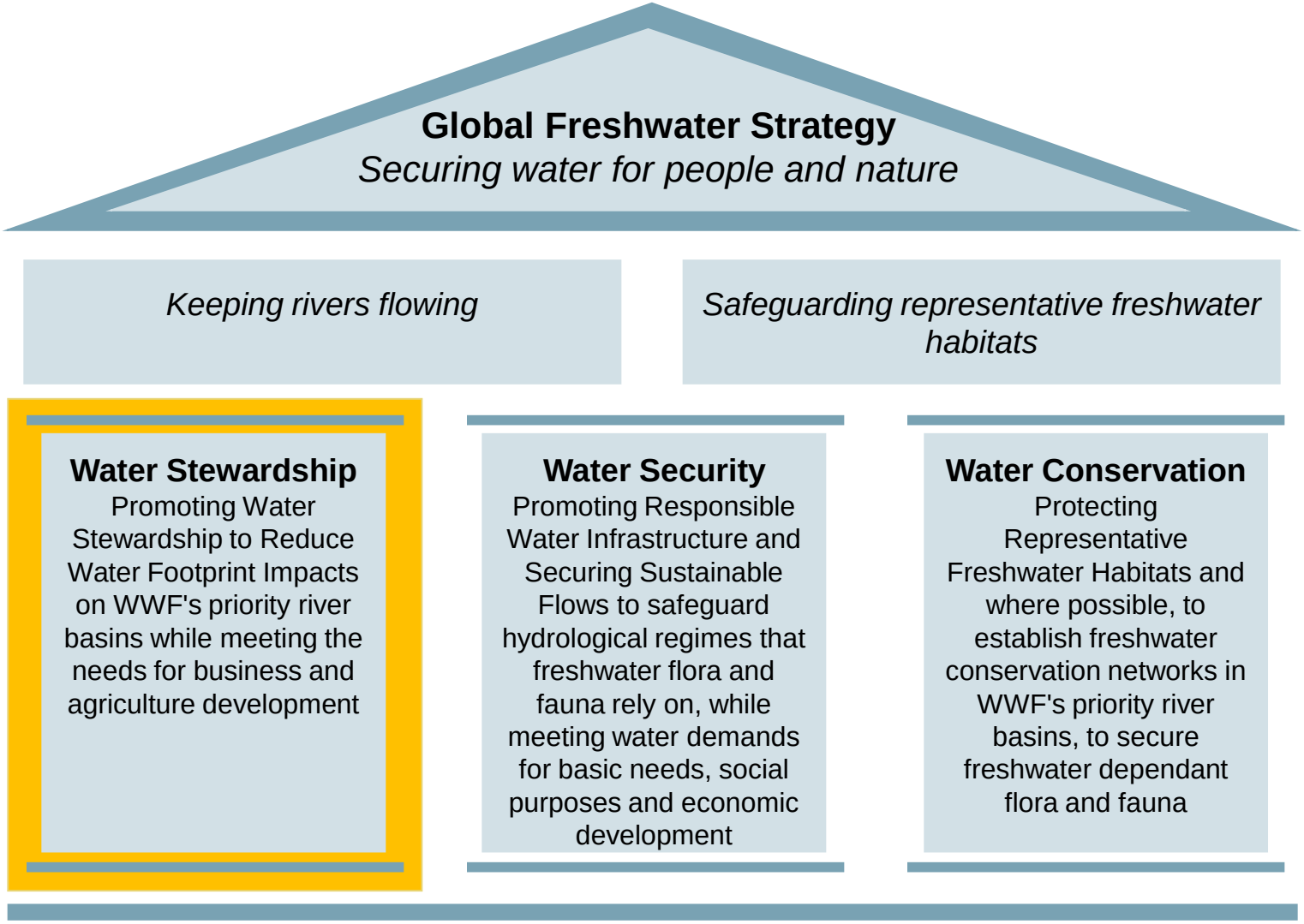
Thank you



Download the report at
http://wwf.panda.org/about_our_earth/about_freshwater/freshwater_news/?199886/Water-shortage-becoming-growth-risk-for-business-says-DEG-and-WWF-report

APPENDIX

Water Stewardship is part of the Freshwater Network Priority



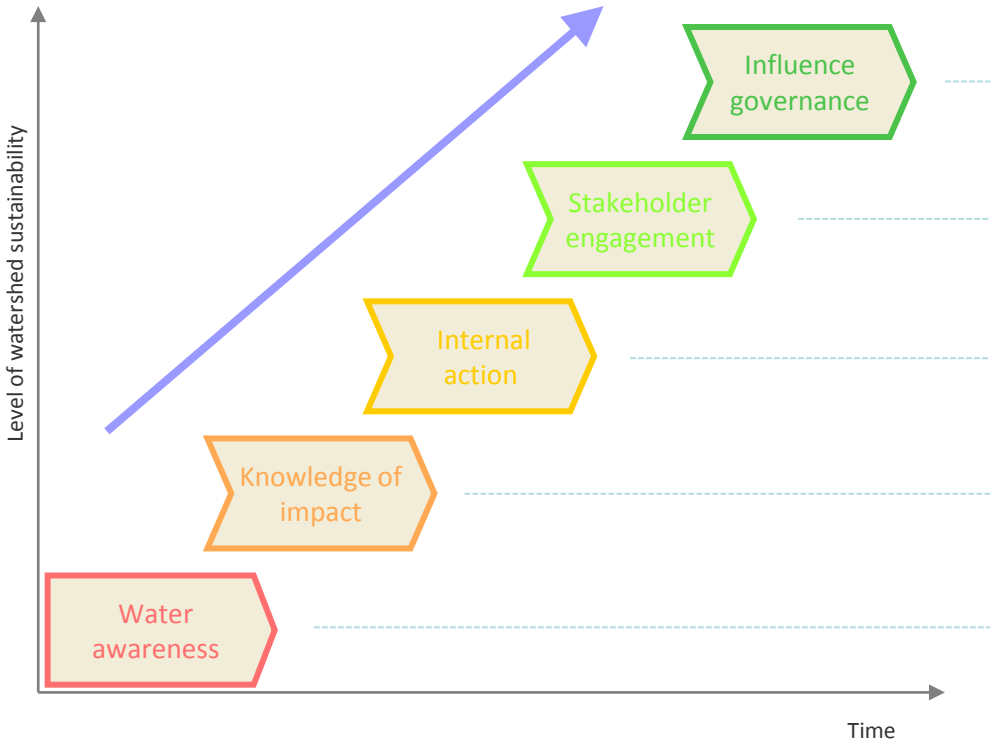
Water Stewardship

Vision:
All stakeholders in our priority river basins, including an active private sector, are fully engaged in efforts to secure water for people and nature by recognizing and taking responsibility of their role in managing freshwater within the wider water cycle, and integrating the principles of good stewardship into their core (business) activities

- By reducing the impacts of their own water footprints
- By taking voluntary action to conserve freshwater ecosystems
- By participating in constructive public policy and industry standard dialogues to improve water resource management

We firmly believe that active cooperation with key private sector companies is crucial to achieve our goals

To achieve this vision, WWF has developed the Water Stewardship strategy



Ultimate goals per step for WWF:

Governments are incentivized and motivated to manage water basins in a sustainable way and are investing in improvements of the basin

Companies, governments and NGO's are engaged together in multi-stakeholder platforms to address user standards, responsibility and governance

Company has taken action to optimize internal water governance, water efficiency and measuring and reporting water quantity and quality, and to reduce pollution

Company has a detailed understanding of the impact they and their suppliers have on river basins, including identification of high risk 'hot spots'

Company has a (high level) understanding of the global water challenges, their dependence on freshwater and their exposure to water related risks

Water: moving from CSR to CEO

Water is different from for example carbon

Companies increasingly understand that insufficient amounts of good quality freshwater directly impacts company's profit

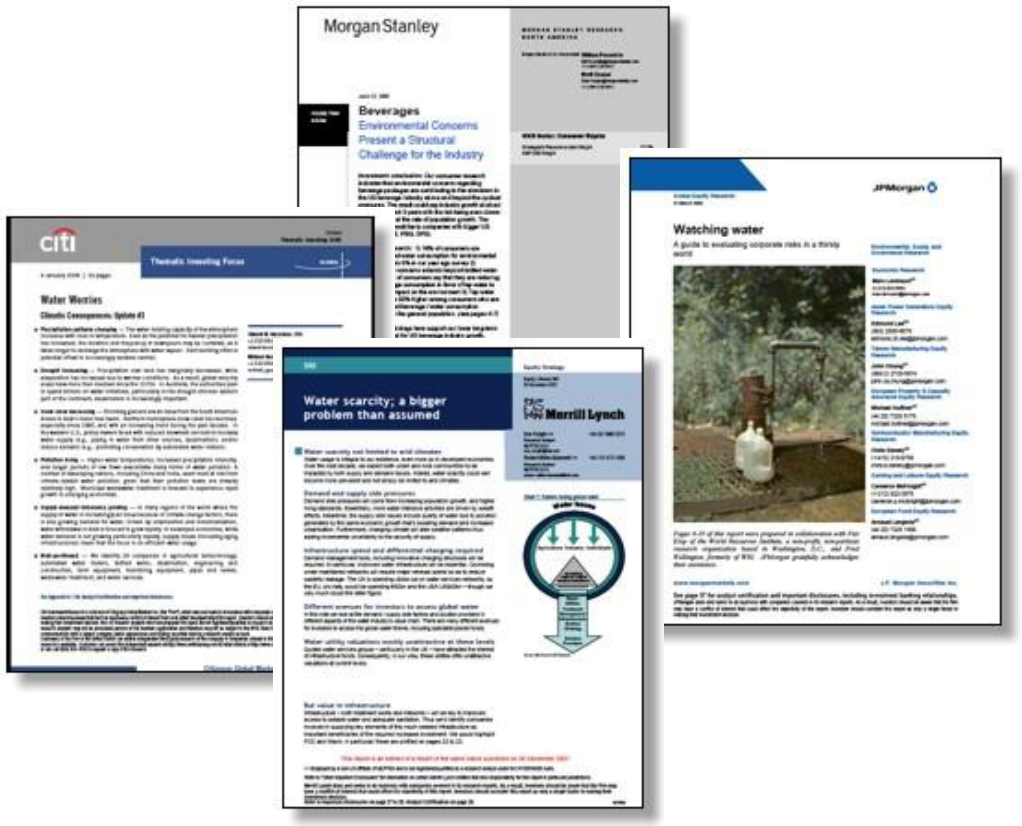
Water topic is therefore increasingly treated as a business (operational) risk, not just a reputational risk

Increasing importance to companies leads to different dynamics: from CSR (marketing departments) to boardrooms…

…And more available funds to mitigate water related risks

But first… a company needs to understand their exposure to these risks

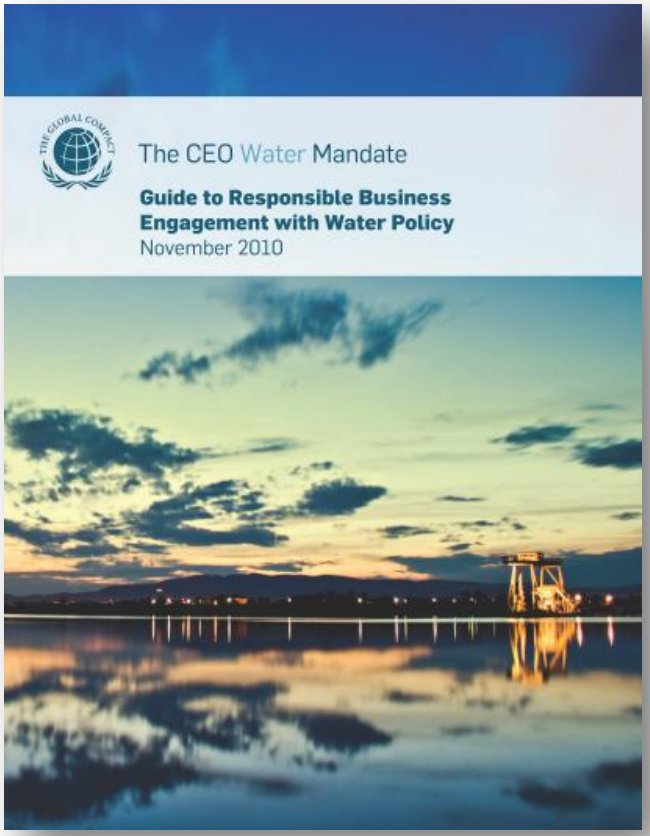
Investors increasingly demand disclosure

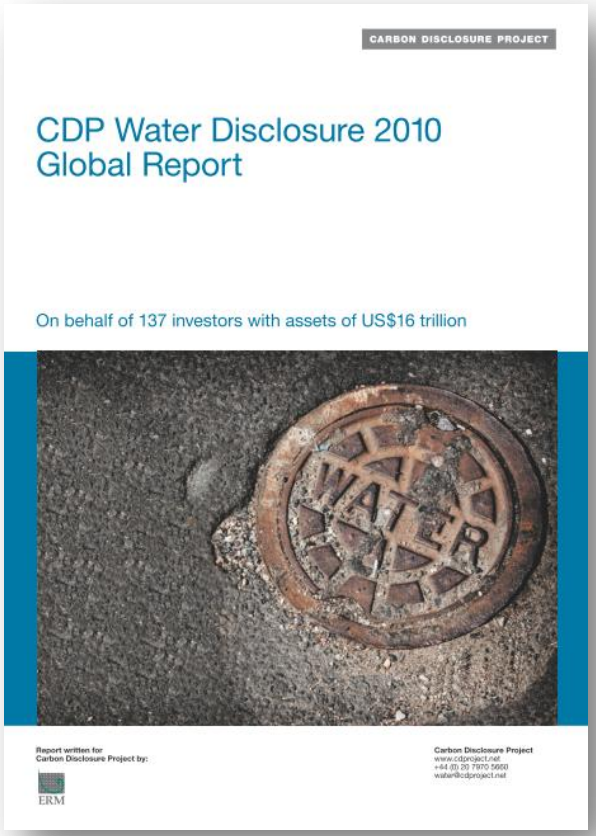


"Corporate disclosure of water-related risks is seriously inadequate and is typically included in environmental statements prepared for public relations purposes"

JP Morgan Global Equity Research, March 2008

WWF is supporting initiatives which enable companies to act - examples





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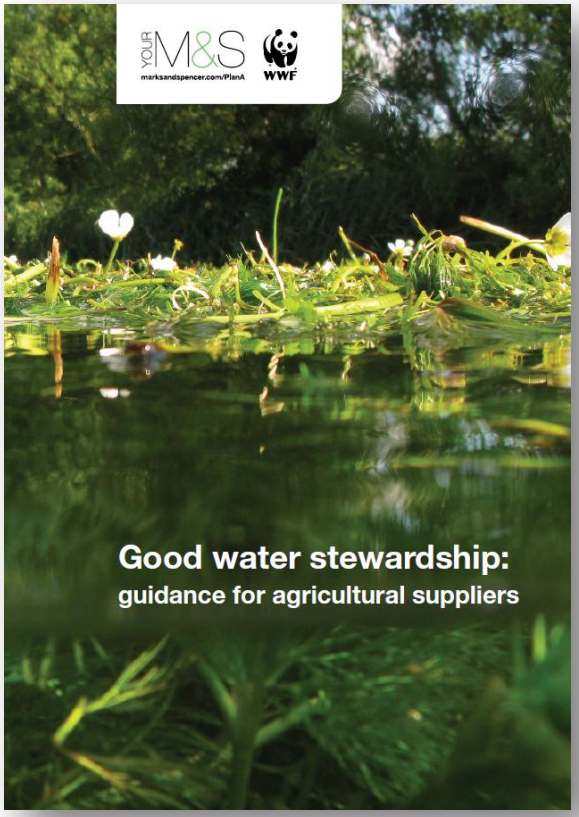

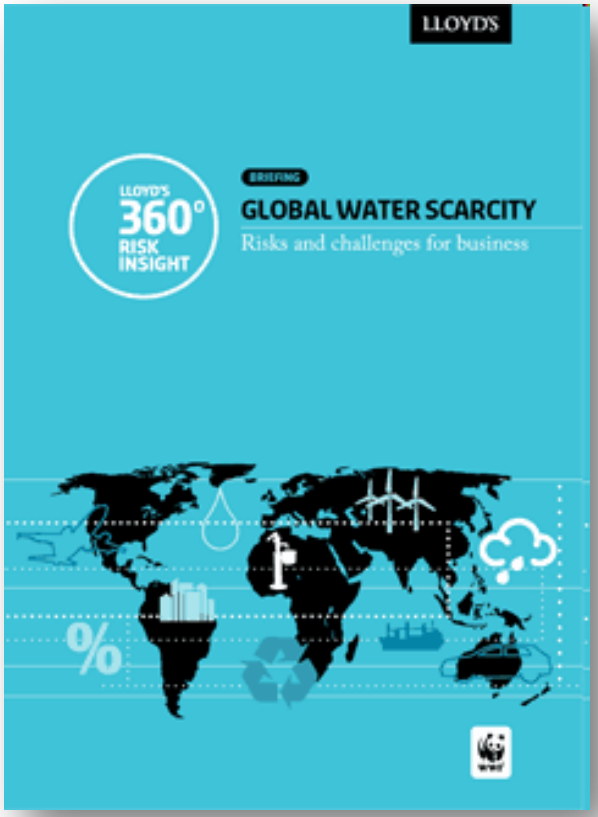

Global water challenges

Today we live in a water scarce world, which not only affects humans but also our freshwater ecosystems and species.

Our current global water challenges:

- Of all species, freshwater species are declining the fastest, especially in the tropical regions (70% decline of Living Planet Index since 1970)
- 41% of the world's human population lives in areas of severe water stress
- 1.1 billion people lack access to safe drinking water
- 2.6 billion lack adequate sanitation services
- >60% of rivers longer than 1000 km do not reach the sea
- Water pollution is high, especially in developing countries where up to 70% of industrial wastewater is disposed without treatment

These challenges will grow as a result of three megatrends in particular:

- First, the world's population is expected to peak at 9 billion by 2050. Already in 2025, 65% of the world's population and 1/3 of the land area will be in severe water stress due to additional food and water requirements. Most of the 3 billion additional people will live in cities in the developing world with poor water and sanitation infrastructure. Increasing water scarcity leads to increased potential for conflicts.
- Temperature increase of 1-2 degrees by 2050. Climate change results in higher weather variability, less freshwater stored in ice, more droughts and floods, and changes in the ecosystem due to higher water temperatures.
- Urbanization and rising incomes, especially in BRIC countries, leading to higher consumption patterns. To feed the larger and richer population a near doubling of water for irrigation is needed and will result in higher per capita water requirements, especially through shifts in demand for different types of food.