How to undertake a water footprint assessment and disclose to CDP

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Agenda

- Why is water a critical business issue
- CDP’s water program
- Introduction to WFN and Water Footprint Assessment
- Assessing water related business risk
- Understanding water risk in the value chain
- Water footprint accounting
- Developing a water stewardship strategy
- Q&A
Water is a critical business issue
Water insecurity - the case for action

- **UN** predicts a **40% global shortfall** in water supply by 2030;
- Excessive loads of nitrogen and phosphate, from agriculture, industrial production and mining, are **degrading the quality of the water we have left**; and
- **NASA** reports groundwater is being depleted to the point where **regional water availability is threatened**.
- The **World Bank** reports water availability in cities will reduce by as much as **two thirds by 2050** due to climate change and competition from energy production and agriculture.

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**Top 10 risks in terms of Impact**

1. Weapons of mass destruction
2. Extreme weather events
3. **Water crises**
4. Natural disasters
5. Failure of climate-change mitigation and adaptation
6. Large-scale involuntary migration
7. Food crises
8. Terrorist attacks
9. Interstate conflict
10. Unemployment or underemployment

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Water insecurity - the case for action

Demand for water is expected to increase in all sectors of production with economic consequences if not properly managed:

- The IEA projects a **30% increase** in global energy demand by 2040;

- The UN projects a **70% increase** in food demand by 2050; and

- The World Bank predicts water security, exacerbated by climate change, could cost some of the world’s regions **up to 6%** of GDP by 2050.

ICCR uses CDP’s water data to understand companies’ water-related risk exposure and water stewardship opportunities

- ICCR ($3.74 trillion)
Water can make or break the low carbon transition

- Delivering on the Paris agreement creates more demand and pressure to improve water management
- 24% of emissions reduction activities reported to CDP depend on a stable supply of good quality water
- 53% of companies report GHG reductions as a direct result of improvements to water management

"We must connect the dots between climate change, water scarcity and energy shortages. Solutions to one problem must be solutions for all."

Ban Ki-moon
Secretary-General of the UN
Case study: #ClimateisWater

Water-consuming processes often use considerable amounts of energy, meaning that water efficiency projects can save on both water and energy consumption. In 2015, the savings delivered under Nestlé’s Environmental Target Setting Program amounted to 1.1 million GJ of energy, 1.7 million m3 of water and 81,146 tons of CO2 e.
What does CDP’s data tell us?
Water risks are rapidly materializing for business

More than 4,000 substantive water risks reported in 2016

- 53% exposed to substantive business risks from water
- 54% expect these risks to materialize over the next 6 years.
- Disclosing companies reported US$14 billion in water-related impacts, a five-fold increase from 2015.
Case study: water is halting business

South African mining company **African Rainbow Minerals** experienced production disruption due to water supply challenges driven by increased water stress. This resulted in the loss of 300 productions hours costing the company US$26 million, 34.5% of total reported revenue in 2015.
More than 2549 business opportunities identified through our water program in 2016

Strategic water stewardship efforts reduces risk, enhances strategic preparedness, improves investor appeal and makes businesses more resilient:

- 66% of responding companies report that water offers operational, strategic, or market opportunities
  - Increased brand value
  - Cost savings
  - Supply chain resilience

- However, only 32% have a plan to capitalize on operational, strategic or market opportunities.
Realizing the true value of water

Business continuity + Licence to operate + Brand value = True value of water
How does CDP catalyse action?
Disclosure is a powerful way to drive investment in research and development, and to motivate finance and creative approaches.

Ali Zaidi, Associate Director, Natural Resources, Energy and Science Programs, White House Office of Management and Budget
To catalyse action to improve water security.

- Mission, CDP's water program
CDP aims to support, contribute to and reflect advanced corporate reporting practices, our questionnaire:

- Drives greater transparency of water issues;
- Facilitates informed decision making;
- Encourages action to improve water security; and
- Promotes competent and robust governance of water issues.
CDP’s water information request – a journey to stewardship
How Water Footprint Network and Water Footprint Assessment can help reporting companies
Introduction to Water Footprint Network and Water Footprint Assessment
Water Footprint Network (WFN) provides science-based, practical solutions and strategic insights that empower companies and governments to transform the way they use and share fresh water within earth’s limits.

- Global leader in Water Footprint Assessment.
- Water Footprint Assessment provides companies and governments with solutions using a common methodology that interlinks water related issues and leads to strategic action for water stewardship, resource efficiency, fair allocation and good governance.
- Open source platform for data, tools, case studies, latest research, guidance.
- Multi-stakeholder partner organisation.
How large is the water footprint?

Where is water consumed/ polluted in your business?

Is it sustainable?

Is your operations / supply chain water use in a sustainable basin?
Is water use efficient?

What will reduce it and make it more sustainable?

How can you improve your water performance / local water conditions?
Assessing Water Related Business Risk
Water Risk Assessment Framework

- Current state
- Risk assessment
- Implications
- Accounting
- Response
- Linkages & trade-Offs
3 kinds of water risk

Water Risk Assessment Framework

Physical risk: water scarcity, drought, groundwater depletion, water pollution levels, flood

Regulatory risk: quality of regulations and enforcement, changes due to water quantity/quality issues, protected areas

Reputational risk: water quantity/quality issues, protected areas, visibility
Conducting a water risk assessment

Operations & supply chain

4 locations in Turkey
Agro-food and paper facilities

Water Footprint and Risk Assessment
Water footprint and business water risks assessed in operations and supply chain.

Investor portfolio

70 locations globally
Agro-food, energy, infrastructure and manufacturing

Portfolio Explorer
Online graphical tool that allows investor to explore water risk of clients individually and by sector.

Global portfolio

Over 6000 locations worldwide
Hospitality business

Water stewardship programme
Water Risk Assessment and Water Stewardship Actions defined for each facility.
Understanding water risk in the value chain
What does water risk mean to your business?

Current state  | Risk assessment  | Implications  | Accounting  | Response  | Linkages & trade-Offs
Assessing water risk for direct operations

Water Risk Assessment
Framework identifies water related business risks at locations of direct operations
Assessing water risk in the supply chain

Water Footprint Assessment and virtual water flows help identify locations where suppliers may be facing water related business risks.
Determining materiality of water risk

Physical, regulatory, and reputational risk triggers

Specific context of business operational unit

Level of risk + Level of exposure = Likelihood of materiality
Water footprint accounting
Understanding the pressure your business puts on water resources

- Current state
- Risk assessment
- Implications
- Accounting
- Response
- Linkages & trade-Offs
Water footprint: an indicator of pressure

- Water footprint is a measurement of water quantity: volume of water consumed or water quality: assimilation capacity used.
- The water footprint occurs in a specific location and at a specific time.
- The water footprint can be measured for both both direct & indirect water use, linking producers and consumers throughout the value chain.
- A water footprint can be calculated for productive processes such as for agriculture, industry or domestic uses, or a geographic area such as a river basin, nation or the whole world.
TSL FY 2012 and FY 13 Average Monthly Blue WF by Process

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<thead>
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<th>Process</th>
<th>FY 2012 Average Monthly Blue WF</th>
<th>FY 2013 Average Monthly Blue WF</th>
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<tr>
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<td>Steel Making</td>
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<tr>
<td>Coke &amp; Sinter</td>
<td>0.35</td>
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<tr>
<td>Others</td>
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<td>0.20</td>
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</tbody>
</table>

Tata Steel FY 2012 Blue Water Footprint by Process

- Iron Making: 20%
- Coke & Sinter: 17%
- Mills: 18%
- Steel Making: 17%
- Power System: 17%
- Others: 15%
Water footprint in supply chain
Developing a water stewardship strategy
Identifying strategic response options

Current state  Risk assessment  Implications  Accounting  Response  Linkages & trade-Offs
The 5 goals of water stewardship actions

1. Measure and monitor water footprint and water risk
2. Improve water performance
3. Increase water resilience
4. Educate value chain about water stewardship
5. Engage with external stakeholders and disclose results
Selecting water stewardship actions

Risk driver x

High risk

High water stewardship business case

Advanced actions
international best practice, best available technology

Basic actions
regional best practice

Low or medium water stewardship business case

General best practice

Low risk
Types of water stewardship actions

- Raise water stewardship awareness and build capacity
- Incorporate water stewardship throughout value chain
- Monitor risk reduction and water stewardship performance
- Invest in infrastructure and technology to meet water stewardship targets
Designing a water stewardship programme

- Water stewardship is a journey and a long-term commitment.
- Water stewardship must fit a company’s business model.
- External stakeholder expectations, best practices, evolve.
- Available technology and performance specifications continuously improve.
- Local, regional and national water quantity and quality challenges, regulations and water stewardship opportunities change over time.
- Water risks change as risk drivers change.
Open source resources @ waterfootprint.org

www.waterfootprint.org

Securing fresh water for everyone
Imagine life without clean, fresh water. That is the future for many unless we rethink how we use each drop. Yet with every mouth comes a mind and smart ideas to resolve the world’s water crises.
I would like to:

- start a new production assessment.
- open an existing production assessment.

My scope of interest is:

- **my business**
  - the operational water footprint of my facilities
  - the supply-chain water footprint of my facilities
  - a commodity

The name of my business is:

```
business1  [go]
```

I know the amount of product that my business produces

The amount of production is:

```
10000  [t]  per year
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Thank you for joining!

Contact us…

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