



World Business Council for
Sustainable Development



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Water for Business:

Initiatives guiding sustainable water management in the private sector

Version August 2009

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About IUCN

Founded in 1948, IUCN (International Union for Conservation of Nature) brings together States, government agencies and a diverse range of non-governmental organizations in a unique world partnership: over 1000 members in all, spread across some 160 countries.

As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

IUCN builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

www.iucn.org

About the WBCSD

The World Business Council for Sustainable Development (WBCSD) brings together some 200 international companies in a shared commitment to sustainable development through economic growth, ecological balance and social progress. Our members are drawn from more than 36 countries and 22 major industrial sectors. We also benefit from a global network about 60 national and regional business councils and partner organizations.

Our **mission** is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.

Our **objectives** include:

Business Leadership – to be a leading business advocate on sustainable development;

Policy Development – to help develop policies that create framework conditions for the business contribution to sustainable development;

The Business Case – to develop and promote the business case for sustainable development;

Best Practice – to demonstrate the business contribution to sustainable development and share best practices among members;

Global Outreach – to contribute to a sustainable future for developing nations and nations in transition.

Disclaimer

This report is released by the World Business Council for Sustainable Development (WBCSD) and the International Union for Conservation of Nature (IUCN). The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WBCSD or IUCN concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Moreover, the views expressed in this publication do not necessarily reflect those of the WBCSD or IUCN, nor does citing of trade names or commercial processes constitute endorsement.

Acknowledgements

We would like to thank the members of the WBCSD water project who provided valuable contribution to this work. We would like to express our gratitude to the people leading the different initiatives for reviewing the way we described and characterized them. We would like to extend a special thanks to Mark Smith from IUCN for his helpful insights.

Finally, we would like to extend our gratitude and appreciation to The National Council for Air and Stream Improvement (NCASI) for contributing with technical content to the glossary.

ADD LOGO OF NCASI HERE

Introduction

Context

Every business depends and impacts on water¹ resources. Some use it to process raw materials and manufacture goods. Some use it for cooling and cleaning. For others, it is a central ingredient in the goods they produce, or it is required to consume the product they sell.

The future of business depends on the sustainability of water resources, which are increasingly under pressure. Globally, per capita availability of freshwater is steadily decreasing and the trend will inevitably continue as the world's population swells towards 9 billion, emerging economies increase consumption levels and climate change unfolds.

The global business community increasingly recognizes the water challenge, but to respond effectively needs guidance, tools, standards and schemes to enable change to more sustainable practices. Since 2006, many new initiatives and concepts have emerged to address this need, driven by business leaders in the field, civil society and governments. Most are global with multi-stakeholder representation.

The WBCSD and IUCN have joined forces to produce this guide to help business better understand and meet the water challenge.

The WBCSD has been actively working on water issues for over 10 years with the objective of moving water up everybody's business agenda. More recently, the WBCSD has produced a set of tools intended to help member companies integrate water issues in their strategic planning. The Global Water Tool™, launched in August 2007, helps companies map their water use and assess risks relative to their global operations and supply chain.

IUCN aims to use lessons from a decade of piloting implementation of sustainable water management in river basins globally to support action by business. It encourages business community engagement in ensuring that emerging tools will meet their needs and to help them build leadership on implementing sustainable water management from local to global levels.

Purpose and scope

This guide is aimed at helping business identify which initiatives and approaches will most suit their needs, and to help developers of schemes understand opportunities for increasing impact through consensus building and joint action.

This overview is not exhaustive, but tries to concisely capture major business-relevant initiatives that are addressing the challenge of better defining sustainable water management. These can be through different approaches, including: guidelines, tools, measurement methodologies, and communication and stewardship schemes.

The key objectives of this document are to:

- Provide a structured overview of major initiatives to improve understanding of “who is doing what”
- Help build a common language for business on water sustainability
- Support the identification of risks and opportunities, gaps and complementarities
- Demonstrate leadership and facilitate business engagement in relevant initiatives.

Structure

The information in this report is organized around three main sections:

- A matrix characterizing the initiatives and tools in terms of the main issue of concern, geographic focus, leading agent and multi-stakeholder approach
- Factsheets summarizing the individual initiatives and enabling comparison
- A companion glossary of key terms and definitions in the area of water management, together with key references used.

¹ The term “water” used throughout this document refers to freshwater unless otherwise indicated.

The main issues of concern have been divided into three categories:

- Tools that *support the identification of risks and opportunities* related to water use and impacts
- Initiatives and tools that aim to help business (and other organizations) *measure water use and assess water-related impacts*
- Approaches to *developing response options*, addressing questions such as how to report, what to disclose and how to recognize responsible water managers through certification schemes.

We are aware that overlaps may exist and that initiatives in one category may also touch upon another. We have decided to focus on the most prominent aspect of each initiative for the purpose of developing a useful characterization. We have selected these categories because we believe that they constitute a logical sequence: from understanding risks to accounting for water use and assessing impacts and exploring mitigation and response strategies.

The initiatives included in this overview have all approved the way they are described and characterized.

Next steps

We are committed to updating this overview as initiatives mature and progress, or new ones emerge. Therefore we see it as a “living document” and will keep it in an electronic format that can be downloaded from:

- <http://www.wbcd.org/web/water.htm>
- <http://www.iucn.org>





















An overall objective now for the WBCSD Water Project is to gain a deeper understanding of good practice in sustainable water management that can lead to continued improvement through engagement with other stakeholders. It has joined the Water Footprint Network to provide collective and cross-sectoral business input into the development of standards, tools and guidelines on water use measurement and impact assessment. Business is an important actor in ensuring sustainable water futures.

Do you wish to suggest another initiative, update the description of one that is already included, or provide feedback and suggestions on the companion glossary of water sustainability terms?

Please let us know!

Submit the online form, fill in the one in the annex and fax it to +41 (0)22 839 31 31, or write to us at water@wbcd.org.

Summary table of sustainable water management initiatives.

	Main issue of concern			Geographic Focus	Leader	Multi-stakeholder	More information
	Identify risks and opportunities related to water use and impacts	Measure water use and assess water-related impacts	Develop response options				
Aquawareness				Europe	Civil Society	✓	www.ewp.eu/aquawareness
Alliance for Water Stewardship™				Global	Civil Society	✓	www.allianceforwaterstewardship.org/
Collecting the Drops: A Water Sustainability Planner				Global	Business		www.gemi.org/waterplanner
The Corporate Water Gauge™				Global	Business		www.sustainableinnovation.org
GRI™ Water Performance Indicators				Global	Business Civil Society	✓	www.globalreporting.org/ReportingFramework/G3Guidelines/
ISO – Water Footprint Principles, Requirements and Guidance				Global	Government	✓	www.iso.org/iso/home.htm
Strategic Water Management in the Minerals Industry: A Framework				Australia	Business	✓	www.minerals.org.au/environment/water
UK Federation House Commitment to Water Efficiency				United Kingdom	Business Government	✓	www.fhc2020.co.uk
UN CEO Water Mandate				Global	Business UN	✓	www.unglobalcompact.org/Issues/Environment/CEO_Water_Mandate/
UNEP/SETAC Life Cycle Initiative – Project Group on Water Use Assessment				Global	Academia Business UN	✓	fr1.estis.net/sites/lcinit/
Water Brief for Business - The S.E.E. Change Initiative				Global	Business		waterbrief.businessroundtable.org/
Water Footprint Network				Global	Academia Business Civil Society	✓	www.waterfootprint.org
Water Neutral Offset Calculator				South Africa	Civil Society		www.wateneutral.org/calculator.asp
WaterSense Program®				United States	Government	✓	www.epa.gov/WaterSense/
Water Stewardship Initiative				Australia	Civil Society	✓	www.waterstewardshipinitiative.com
WBCSD Global Water Tool©				Global	Business	✓	www.wbcd.org/web/watertool.htm

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Name	Aquawareness The European Water Awareness and Water Stewardship Programme
Date of creation	June 2008
Organization	The European Water Partnership (EWP) , a non-profit organization structured as an open and inclusive member association with the overall mission of giving water one common voice in Europe
Key contacts	Agnes Biesiekierska: a.biesiekierska@ewp.eu Sabine von Wiren-Lehr: s.von-wiren-lehr@ewp.eu
Website	www.ewp.eu/aquawareness
Objectives	Respond to the growing water challenges and contribute to a movement of change in Europe by: <ul style="list-style-type: none"> ➤ Creating a common vision for water in Europe with widely accepted principles for sustainable water management ➤ Supporting change of behavior and practices ➤ Shaping and integrating water into policy and strategy agendas ➤ Creating a water saving and efficiency culture among private, business and agricultural users ➤ Supporting the shift from supply to demand management through information, education and training
Key activities	Development of a Water Vision for Europe to serve as a starting point for policy making and a basis for an awareness and stewardship program. The awareness program aims to introduce a water saving and efficient culture among political decision-makers, key stakeholders and inhabitants by improving information and creating transparency on the water situation to support change of behavior and efficient policy-making. The water stewardship program aims to provide a tool to communicate and award responsible water users through the development of a common framework for assessing, implementing and communicating sustainable water management. Working groups (industry, agriculture, tourism, public and private users) are defining a list of criteria and requirements for sustainable water management against which to perform an assessment of the water user either through an internal audit or an independent control body. If compliance to these principles is recognized, the water user will be able to refer to it in form of a branding or labeling.
Geographic and sectoral focus	Europe and cross-sectoral
Approach	Voluntary program Stakeholder consultation process
Timeline	Launching event of the water stewardship project results planned for first quarter 2010
Participants and Partners	EWP members (incl. governmental agencies, knowledge institutes, companies, NGOs) Partnership with the Alliance for Water Stewardship positioning EWP as the regional European stewardship approach with the global water stewardship community Support from EU Institutions
Business involvement	Confederation of European Paper Industries WBCSD members BASF, Coca-Cola Europe
Target audience	Business, agriculture, tourism, public and private users
Available material	<ul style="list-style-type: none"> ➤ Water Vision for Europe: www.ewp.eu/wp-content/uploads/2009/03/water-vision-for-europe.pdf ➤ Water Stewardship Newsletters: www.ewp.eu/projects/aquawareness/water-stewardship/newsletter
Key terms	Principles and indicators, assessment scheme, communication tools

Name	Alliance for Water Stewardship (AWS)
Date of creation	June 2008
Organizations²	The Nature Conservancy; The Pacific Institute; The Water Stewardship Initiative; World Wildlife Fund; Water Witness; Water Environment Federation®
Key contacts	Jonathan Kaledin: jkaledin@tnc.org Jason Morrison: jmorrison@pacinst.org Stuart Orr: sorr@wwfint.org Michael Spencer: spencer@waterstewardshipinitiative.com Matthew Wenban-Smith: mwenbansmith@oneworldstandards.com
Website	www.allianceforwaterstewardship.org/
Objectives	Promote responsible use of freshwater that is both socially beneficial and environmentally sustainable. Establish a global enterprise that will define water stewardship standards and recognize large-scale water users and managers who meet those standards through a branded certification program that incorporates social, environmental and economic aspects of water use and management.
Key activities	Development of the key elements of the certification program: <ul style="list-style-type: none"> ➤ International standards with a focus on impacts of direct and indirect water use at the watershed level ➤ Verification to determine whether these standards have been met ➤ A global brand to allow users to demonstrate compliance ➤ Training and education to promote achievement of water stewardship Pilot testing and technical studies to refine the program through an iterative process.
Geographic and sectoral focus	Global framework across industrial sectors at organizational and site levels
Approach	<ul style="list-style-type: none"> ➤ Global inclusive platform open to all stakeholders ➤ Voluntary program ➤ Aims to be compatible with other standards/systems that address water use ➤ Seeking stakeholder engagement in the design, development and implementation of the water stewardship program, including pilot testing standards and verification systems for certification
Timeline	AWS is building a water certification organization to be launched at the end of 2011.
Participants and Partners	Partnership with the Water Footprint Network: AWS aims to use the water footprint methods, tools and indicators as a basis for developing water stewardship criteria
Business involvement	AWS is actively seeking business participation in all aspects of the program
Target audience	Industrial and agricultural water users, municipalities, water authorities
Available material	Overview of the initiative: www.allianceforwaterstewardship.org/about_pdfs/AWS_StandardsWorkshop.pdf
Key terms	Water stewardship standards, impacts assessment, verification and certification

² www.allianceforwaterstewardship.org/partners.html

Name	Collecting the Drops: A Water Sustainability Planner
Date of creation	January 2007
Organization	Global Environmental Management Initiative (GEMI®) , an organization of leading companies dedicated to fostering global environmental, health and safety excellence through the sharing of tools and information
Key contact	Amy Goldman: info@gemi.org
Website	www.gemi.org/waterplanner
Objectives	<p>Generate information that can be used to create short- and long-term water strategies, develop action plans and perform actions to improve water resource management within operations and the community.</p> <p>Provide tools and detailed guidance on:</p> <ul style="list-style-type: none"> ➤ The process for assessing the facility's specific water uses/needs in comparison to the availability of water in the region ➤ The impacts these operations poses on the available water resources ➤ The identification of factors that may pose risks for the operation's ability to produce
Key features	<p>The tool is structured around three modules:</p> <p>Facility water use and impact assessment program (module 1)</p> <ul style="list-style-type: none"> ➤ Guidance for preparing a facility water block flow diagram and water balance requiring data on water supply, process/facility losses and total volumes discharged <p>Water management risk assessment (module 2)</p> <ul style="list-style-type: none"> ➤ Web-based interactive questionnaire requiring input from the facility user on general water considerations and specific risk questions. Risk categories include: watershed; supply reliability; efficiency; compliance; supply economics and social context <p>Case examples and reference links including definitions of the terms used in the tool (module 3).</p>
Geographic and sectoral focus	Cross-sectoral with a focus on facility level and local/regional impacts
Approach	Developed through a collaborative process by GEMI's Water Sustainability Group
Participants and partners	GEMI's Water Sustainability Group, i.e., 30 companies ³ from various sectors Support from the Institute for Water Resources
Business involvement	Project chaired by The Dow Chemical Company, ConAgra Foods, Inc. and The Coca-Cola Company
Target audience	Corporate facility staff or operation division staff
Available material	<ul style="list-style-type: none"> ➤ Free web-based interactive tool: www.gemi.org/waterplanner ➤ Or download the PDF version: www.gemi.org/waterplanner/Documents/CollectingDrops.pdf <p>Although the Planner is self-standing, facility users are encouraged to also consult "Connecting the Drops Towards Creative Water Strategies" (2002): www.gemi.org/water/</p>
Key terms	Facility level water use and impact assessment, risk assessment

³ WBCSD members include: 3M, Duke Energy, DuPont, Novartis, Roche, The Coca-Cola Company, The Procter & Gamble Company and The Dow Chemical Company.

Name	The Corporate Water Gauge™
Date of creation	January 2009
Organization	The Center for Sustainable Innovation , a non-profit corporation conducting research, development, training and consulting for, and with, companies interested in improving the sustainability performance of their operations.
Key contact	Mark McElroy: mmcelroy@vermontel.net
Website	www.sustainableinnovation.org
Objectives	Measure the ecological sustainability of an organization's water use at specific locations or facilities by measuring consumption in the context of local hydrological and meteorological conditions.
Key features	<p>The tool assesses a facility's water use in light of local watershed, precipitation and population conditions, while taking into account the sources and sinks of water inflows and outflows, and the populations with whom resources must be shared.</p> <p>Quantitative scores are produced, which reflect the sustainability of the organization's water use (procedure not specified)</p> <p>Sustainability performance is determined by the rate of water use by the facility measured against the rate of renewable water supplies in the watershed(s) of interest, after allocating shares of available resources to specific facilities.</p> <p>Uses GIS technology to collect and analyze the local hydrological and demographic information at a watershed level in combination with site-specific datasets.</p>
Geographic and sectoral focus	Applicable globally and across industrial sectors with a focus on site and enterprise level measurement and reporting in mind
Approach	Usage of the tool is restricted to those that have engaged with the Center, for a fee, to provide training on its use. Use afterwards is free of charge.
Participants and partners	Co-developed with Acer GeoAnalytics in Vermont
Business involvement	First used at Agri-Mark, Inc. in the US at its Cabot Creamery Cooperative food processing plants in New England
Target audience	Corporate sustainability, facility and operations managers
Available material	<p>Description: www.sustainableinnovation.org/Corporate-Water-Gauge.pdf</p> <p>Frequently asked questions: www.sustainableinnovation.org/Water-Gauge-FAQs.pdf</p>
Key terms	Sustainability metric, water use, watershed

Name	GRI Water Performance Indicators
Date of creation	Third version of the sustainability reporting guidelines (G3) released in October 2006
Organization	The Global Reporting Initiative™ (GRI), a multi-stakeholder governed institution collaborating to provide the global standards in sustainability reporting
Key contact	Sean Gilbert: gilbert@globalreporting.org
Website	www.globalreporting.org/ReportingFramework/G3Guidelines/
Objectives	Provide a standardized reporting format that gives guidelines and boundaries to the process of sustainability reporting and improves the comparability and credibility of information disclosed
Key activities	<p>Identification of water performance indicators G3 guidelines include:</p> <ul style="list-style-type: none"> ➤ EN8: Total water withdrawal by source ➤ EN9: Water sources significantly affected by withdrawal of water ➤ EN10: Percentage of total volume of water recycled and reused ➤ EN21: Total water discharge by quality and destination ➤ EN25: Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff
Geographic and sectoral focus	Global and cross-sectoral
Approach	Voluntary initiative Multi-stakeholder network
Participants and partners	<p>GRI is a collaborating centre of the United Nations Environment Programme</p> <p>GRI has strategic relationships with a range of international bodies including the UN Global Compact (GC). G3 Guidelines can be used to produce the GC's annually required Communication on Progress. The WBCSD Global Water Tool can be used to generate the G3 water indicators EN8, EN10 and EN21.</p> <p>A series of multi-stakeholder governance bodies that coordinate the formal components of the GRI network represent the institutional side of GRI. These include: Board of Directors; Stakeholder Council; Technical Advisory Committee. The organizational stakeholders are the hundreds of organizations and individuals who form the foundation of the governance structure.</p>
Business involvement	Reporting guidance developed by companies and non-industry stakeholders, including civil society, labor and others through a structured consensus-seeking process of dialogue
Target audience	Reporting organizations and those who use report information alike
Available material	<p>The Sustainability Reporting Framework is freely available and consists of:</p> <ul style="list-style-type: none"> ➤ Guidelines including principles and guidance on report content, quality and boundaries together with standards disclosures such as performance indicators ➤ Indicator protocols providing further technical information ➤ Sector Supplements (indicators for industry sectors)
Key terms	Water performance indicators, reporting, standard disclosures

Name	Water footprint – principles, requirements and guidance
Date of creation	Accepted in Cairo on 26 June 2009
Organization	International Organization for Standardization (ISO) , a global network of national standards institutes of 161 countries; WG8 under TC207/SC5
Key contact	Sebastien Humbert: sebastien.humbert@ecointesys.ch
Website	www.iso.org/iso/home.htm
Objectives	<p>Provide developers of methods assessing water use with internationally accepted guidelines ensuring coherence with other ISO norms and environmental metrics to avoid confusion and reach synergies</p> <p>More specifically, develop an international water footprint standard (both inventory and impact based) including principles, requirements and guidelines as well as its communication</p>
Key activities	Process plan under development
Geographic and sectoral focus	Global and applicable to products, processes and organizations across all sectors
Approach	According to ISO standards development processes and procedures, i.e., through consensus building, industry wide and voluntary.
Timeline	2009-2011
Participants and partners	<p>Proposed by SNV, the Swiss Association for Standardization</p> <p>~20 countries involved</p> <p>WBCSD, the Water Footprint Network and the Life Cycle Initiative invited as key contributors as a liaison member or as a national delegate (expert)</p>
Business involvement	Possible within the working group as a liaison member or as a national delegate.
Target audience	Industries, political decision-makers, consultants and scientists assessing or using water footprint
Available material	Under development
Key terms	International water footprint standard, guidelines, inventory, impact assessment

Name	Strategic Water Management in the Minerals Industry: A Framework
Date of creation	2006
Organizations	The Ministerial Council on Mineral and Petroleum Resources (MCMPR) ⁴ and the Minerals Council of Australia (MCA) , which represents Australia's exploration, mining and minerals processing industry in its contribution to sustainable development and society
Key contacts	Melanie Stutsel, MCA; Kristina Ringwood, Rio Tinto Commonwealth Department of Resources, Energy and Tourism
Website	www.minerals.org.au/environment/water
Objectives	Promote a strategic approach to water management at mining and processing sites so that water is more efficiently managed and valued as a vital business, community and environmental asset Inform business planning, support identification of risks and opportunities and provide high-level guidance on issues that should be addressed in developing and implementing a water strategy for business
Key features	Strategic issues to be considered are structured around four major themes: <ul style="list-style-type: none"> ➤ Valuing water in its social, environmental and economic dimensions: guidance on how to reflect the true value of water in decision-making ➤ Strategic water planning: guidance on primary elements to be included in a high-level water strategy and importance of contextual factors ➤ Implementation: guidance on the development of site water management plans and balances to improve operational performance. ➤ Engaging stakeholders: principles for building relationships that generate mutually beneficial outcomes. <p>Examples of companies applying the framework are presented.</p>
Geographic and sectoral focus	Australia Mining and minerals industrial sector at a site and corporate level
Approach	Developed by a multi-stakeholder working group composed of business and regional/national government representatives, including a public consultation phase on the draft framework
Participants and partners	MCA - representing 85% of Australia's annual mineral output Regional and national governments representatives
Business involvement	Iluka Resources, Newcrest Mining, Xstrata and WBCSD members Newmont Australia, Rio Tinto
Target audience	<ul style="list-style-type: none"> ➤ Corporate managers and planners responsible for providing strategic direction on water as input to business plans ➤ Mine managers, water managers and environmental officers responsible for managing water programs and engaging with local communities
Available material	<ul style="list-style-type: none"> ➤ The Strategic Water Management Framework: www.minerals.org.au/ data/assets/pdf file/0009/17595/Water_strategy_book.pdf <p>In 2008, the Commonwealth Department of Resources published the leading practice booklet for water management in the minerals industry which provides an up-to-date source of information building on the strategic framework⁵.</p>
Key terms	Strategic water planning, risk management, operational performance

⁴ The MCMPR is part of the Department of Resources, Energy and Tourism of the Australian Government.

⁵ www.ret.gov.au/resources/mining/leading_practice_sustainable_development_program_for_the_mining_industry/Pages/water_handbook.aspx

Name	UK Federation House Commitment to Water Efficiency
Date of creation	January 2008
Organizations	The UK Food & Drink Federation (FDF), representing the interests of the food and drink manufacturing industry , and Envirowise , a Government-funded program dedicated to putting the sustainable use of resources at the heart of UK business practice
Key contacts	Andrew Kuyk, Director of Sustainability and Competitiveness, FDF Simon Drury, Strategic Partnership Director, Envirowise fhc2020@envirowise.gov.uk
Website	www.fhc2020.co.uk
Objectives	Establish a strategic framework to support food and drink manufacturing companies to contribute to an industry-wide target to reduce its water use (outside of that embedded in products themselves) by 20% by 2020 compared to 2007 in line with the target set by the UK Government's Food Industry Sustainability Strategy.
Key activities	Key elements of the commitment include the: <ol style="list-style-type: none"> 1. Development of a 2007 baseline of water use 2. Assessment of water use at each manufacturing site 3. Development of site-specific action plans 4. Implementation of action plans 5. Provision of company annual water use data to Envirowise who will report collective progress.
Geographic and sectoral focus	United Kingdom The food and drink industry
Approach	<ul style="list-style-type: none"> ➤ Public-private partnership to deliver on a governmental strategy ➤ Voluntary time-bound commitment with quantified reduction target ➤ Water use does not take into account water embedded in products.
Timeline	2007 – 2020
Participants and partners	Food and drink industry in partnership with the UK Government
Business involvement	20 signatories including WBCSD members Unilever and PepsiCo. List of signatories: www.fhc2020.co.uk/fhc/cms/members/
Target audience	UK-based businesses in the food and drink sector
Available material	UK Government Food Industry Sustainability Strategy (May 2006): www.defra.gov.uk/farm/policy/sustain/fiss/pdf/fiss2006.pdf
Key terms	Water reduction target

Name	The United Nations CEO Water Mandate
Date of Creation	July 2007
Organization	The United Nations Global Compact , a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, environment and anti-corruption.
Key contacts	Gavin Power: powerg@un.org Jason Morrison: jmorrison@pacinst.org
Website	www.unglobalcompact.org/Issues/Environment/CEO_Water_Mandate/
Objectives	Mobilize global business action and provide a strategic framework to help companies better manage water use Assist companies in the development, implementation and disclosure of water sustainability policies and practices based on the CEO Water Mandate's six key areas: direct operations; supply chain and watershed management; collective action; public policy; community engagement; transparency
Key activities	<ul style="list-style-type: none"> ➤ Multi-stakeholder forums on challenging and timely water issues ➤ Learning platform for best and emerging practices ➤ Development of a transparency framework and supporting guidance ➤ Support to endorsers in their implementation of the Mandate's elements through working symposiums, guidance documents and resources, and information provision and research
Geographic and sectoral scope	Global and cross-sectoral focusing on operations and supply chain
Approach	<ul style="list-style-type: none"> ➤ Public-private partnership ➤ Voluntary commitment ➤ Requires endorsement of the Mandate by a company's CEO or equivalent, annual communication on progress and a yearly financial contribution
Participants and partners	53 signatories as of April 2009 from various industrial sectors The UN Global Compact Office and Pacific Institute act as the Secretariat of the CEO Water Mandate
Business involvement	WBCSD members include Bayer, Deloitte, The Dow Chemical Company, Firmenich, PepsiCo, PricewaterhouseCoopers, Royal Dutch Shell, Suez, The Coca-Cola Company and Unilever Full list of signatories: www.unglobalcompact.org/issues/Environment/CEO_Water_Mandate/endorsingCEOs.html
Target audience	Global businesses
Available material	<p>The CEO Water Mandate, its Preamble and Core Elements: www.unglobalcompact.org/docs/news_events/8.1/Ceo_water_mandate.pdf</p> <p>Constitution of the CEO Water Mandate: www.unglobalcompact.org/docs/issues_doc/Environment/ceo_water_mandate/Constitution_CEO_Water_Mandate.pdf</p> <p>Transparency Framework, October 2008: www.unglobalcompact.org/docs/issues_doc/Environment/ceo_water_mandate/Transparency_Framework_Phase_One.pdf</p> <p>Water Disclosure 2.0: Assessment of Current and Emerging Practices in Corporate Water Reporting, March 2009 www.unglobalcompact.org/docs/news_events/9.1_news_archives/2009_03_11/Water_Disclosure.pdf</p> <p>Summaries of working conferences: http://www.unglobalcompact.org/Issues/Environment/CEO_Water_Mandate/Working_Conferences.html</p>
Key terms	Transparency, disclosure, public policy engagement, water and human rights

Name	Water Use Assessment within Life Cycle Assessment
Date of Creation	August 2007
Organization	Working Group under the auspices of the UNEP/Society of Toxicology and Chemistry (SETAC) Life Cycle Initiative , a partnership to enable users around the world to put life cycle thinking into effective practice
Key contacts	Emmanuelle Aoustin, Veolia Environnement: emmanuelle.aoustin@veolia.com Annette Koehler, ETH Zurich (Swiss Federal Institute of Technology): annette.koehler@ifu.baug.ethz.ch
Website	fr1.estis.net/sites/lcinit/
Objectives	To provide industrials with a coherent framework within which to measure and compare the environmental performance of product and operations regarding climate change, biodiversity and freshwater use by: <ul style="list-style-type: none"> ➤ Developing indicators that measure the environmental impacts on human health, ecosystems and freshwater resources generated by freshwater use ➤ Integrating this indicator within the ISO 14040 standardized Life Cycle Assessment (LCA) framework that already provides a standardized carbon footprinting methodology ➤ Developing a multi-criteria assessment scheme within the LCA framework that allows industrials to benchmark the performances of products, processes and services on climate change, biodiversity and freshwater resources protection
Key activities	<ul style="list-style-type: none"> ➤ Development of a consistent scheme for freshwater use accounting and reporting ➤ Modeling of the impacts generated by freshwater use depending on the geographical context (e.g., freshwater availability in the watershed) ➤ Harmonization of the LCA scheme towards freshwater use accounting ➤ Application of the indicators on industrial case studies (e.g., water utilities, pulp and paper plants) ➤ Communication & dissemination within the scientific community and industry
Geographic and sectoral focus	Global and cross sectoral
Approach	Voluntary commitment of academic researchers, consulting agencies and industrials to research projects within a multi-stakeholder working group
Participants and partners	Academics, research and consultancy organization and business Leaders: Veolia Environnement, ETH Zurich
Business involvement	Water treatment, pulp and paper, chemical and food industries
Target audience	Scientific community – Business
Available material	<ul style="list-style-type: none"> ➤ Koehler, A. 2008. "Water use in LCA: Managing the Planet's Freshwater Resources". <i>International Journal of LCA</i> 13 (6): pp. 451-455. ➤ Bayart, JB., Bulle, C., Deschênes, L., Margni, M., Pfister, S., Vince, F. and Koehler, A. 2008. "A Framework for Assessing Off-Stream Freshwater Use in LCA", <i>International Journal of LCA</i>. Submitted. ➤ Pfister, S., Koehler, A. and Hellweg, S. 2009. "Assessing the Environmental Impact of Freshwater Consumption in LCA", <i>Environmental Science and Journal</i> 43 (11): pp. 4098–4104.
Key words	Freshwater use and consumption, depletion of freshwater resources, environmental impacts, life cycle assessment

Name	Water Brief for Business <i>The Society, Environment, Economy Change Initiative</i>
Date of creation	September 2005
Organization	The Business Roundtable , an association of chief executive officers of leading US companies that innovates and advocates to help expand economic opportunity for all Americans
Key contact	info@businessroundtable.org
Website	waterbrief.businessroundtable.org/
Objectives	Layout the case for business engagement on water sustainability and provide resources to help business take tangible actions now by answering key strategic questions on an array of water issues important to business <ul style="list-style-type: none"> ➤ Create awareness ➤ Provide tools and framework for designing and implementing a sustainable water initiative
Key features	The interactive educational website outlines: <ol style="list-style-type: none"> I. Strategic questions to ask about water <ul style="list-style-type: none"> ✓ Actions companies are taking ✓ Water and its intensity in the business value chain ✓ Corporate risks of water scarcity and water quality ✓ Business strategies and tactics on water ✓ Company action plan II. Reasons to act <ul style="list-style-type: none"> ✓ Water scarcity and supply interruptions are increasing, and water quality is declining ✓ Water-related risks are significant for business ✓ Water is a business opportunity III. Company actions IV. Water news V. Useful links
Geographic and sectoral focus	Global and cross-sectoral
Approach	Developed through a collaborative process by members of the Business Roundtable
Participants and partners	35 companies representing various industrial sectors
Business involvement	WBCSD members include Accenture, Alcoa, American Electric Power, Caterpillar, The Coca-Cola Company, The Dow Chemical Company, Duke Energy, DuPont, General Electric, General Motors, ITT, The Procter & Gamble Company, United Technologies Corporation, Weyerhaeuser
Target audience	Business
Available material	The Water Brief and its related resources are accessible through a dedicated website: waterbrief.businessroundtable.org
Key terms	Strategic planning, risk management

Name	The Water Footprint Network (WFN)
Date of creation	December 2008
Organizations	Founding partners include the International Finance Corporation (part of the World Bank Group), the Netherlands Water Partnership, Twente University, UNESCO Institute for Water Education, the Water Neutral Foundation, WBCSD and WWF – the global conservation organization.
Key contacts	Derk Kuiper derk@goodstuffinternational.com Arjen Hoekstra A.Y.hoekstra@ctw.utwente.nl
Website	www.waterfootprint.org
Objectives	Support the transition towards sustainable and fair use of freshwater resources worldwide by: <ul style="list-style-type: none"> ➤ Advancing the water footprint concept - a spatially and temporally explicit indicator of direct and indirect water use ➤ Increasing the water footprint awareness of communities, governments and businesses and their understanding of how consumption of goods and services and production chains relates to water use and impacts on freshwater systems ➤ Encouraging forms of water governance that reduce the negative ecological and social impacts of the water footprint of communities, countries and businesses
Key activities	Standards development for water footprint accounting and impact assessment Practical tools to support people and organizations interested in water footprint accounting, impact assessment and reduction Guidelines on reduction of the negative impacts of water footprints Corporate water footprint pilots and sector/products water footprint studies Exchange, communication and dissemination of knowledge
Geographic and sectoral focus	Global and multi-sectoral
Approach	<ul style="list-style-type: none"> ➤ Multi-stakeholder platform ➤ Operates as an open source program ➤ Voluntary program
Participants and partners	More than 50 partners (June 2009) including academic institutions, NGOs, business, government agencies and international organizations Overview of all partners at: www.waterfootprint.org/?page=files/OverviewPartners Memorandum of Understanding with the Alliance for Water Stewardship clarifying scopes of work between both organizations.
Business involvement	Cadbury, Dole, Nestlé, SABMiller and WBCSD members Lafarge, Natura PepsiCo, The Coca-Cola Company and Unilever.
Target audience	Individuals, businesses and countries
Available material	Gerbens-Leenes, P.W. and Hoekstra, A.Y. 2008. "Business Water Footprint Accounting": www.waterfootprint.org/Reports/Report27-BusinessWaterFootprint.pdf
Key terms	Water footprint standards, accounting and impacts assessment

Name	Water Neutral Offset Calculator
Date of creation	August 2008
Organization	The Water Neutral Foundation , a not for profit entity based in South Africa.
Key contact	Pancho Ndebele: pancho@waterneutral.org
Website	www.waterneutral.org/calculator.asp
Objectives	Raise awareness and stimulate debate and action to proactively reduce the footprint that one presses on the water resources when visiting South Africa Demonstrate the water neutral concept's viability.
Key activities	Development of a water neutral offset calculator that quantifies the volumes of water used to produce goods by a traveler/tourist visiting South Africa on a daily basis while on holiday or business. The calculator is linked to a tool that calculates the offset price necessary for each unit of water footprint. The funds raised are then channeled to initiatives aimed at promoting sustainable water management practices within a watershed, water conservation, water efficiency and the provision of clean drinking water in rural and peri-urban communities.
Scope	South Africa Aims to export the tool to other countries and beyond individuals
Approach	Voluntary approach working with academia, research institutions, business and civil society
Participants and partners	Co-developers of the tool include Ashok Chapagain (WWF UK) and Arjen Hoekstra (University of Twente/Water Footprint Network)
Business involvement	Working with South Africa-based corporations to develop a pilot project aimed at reducing and offsetting the negative impacts of their water footprints on water stressed watersheds.
Target audience	Individuals (travelers to South Africa) Aims to expand the concept to corporations and other organizations
Available material	Hoekstra, A.Y. 2008. "Water Neutral: Reducing and Offsetting the Impacts of Water Footprints": http://www.waterfootprint.org/Reports/Report28-WaterNeutral.pdf
Key terms	Water neutral, water footprint, water offsets

Name	WaterSense® Program
Date of creation	2006
Organization	The US Environmental Protection Agency (EPA)
Key contact(s)	Virginia Lee: Lee.VirginiaD@epamail.epa.gov watersense@erg.com
Website	www.epa.gov/WaterSense/
Objectives	<p>Protect future water supply by promoting and enhancing the market for water-efficient products, services and programs.</p> <p>Help customers differentiate between products in the marketplace, while ensuring product performance, through a certification mark – the WaterSense label.</p> <p>Reduce water and wastewater infrastructure costs.</p>
Key activities	<p>Development of the WaterSense product certification system including:</p> <ul style="list-style-type: none"> ➤ Establishment of water efficiency and performance criteria through an open process and stakeholder input ➤ Certification and labeling of water-efficient products by EPA-licensed third-party certifying bodies; follow-up surveillance ➤ Awareness-raising campaigns targeting consumers for uptake of differentiated products ➤ Awards ➤ Online registry of labeled products
Geographic and sectoral focus	<p>United States</p> <p>Landscape irrigation professionals and manufacturers of water-using products; retailers and distributors; water utilities</p>
Approach	<p>Partnership program sponsored by the US EPA. In order to use the label, a company must sign a WaterSense partnership agreement. Voluntary program</p> <p>EPA recognized certification organizations assess products and services against EPA water efficiency and performance criteria</p>
Participants and partners	<p>More than 1,000 partners including local water utilities, product manufacturers, irrigation professionals, retailers and distributors</p> <p>Local governments and state government agencies; environmental, non-governmental, trade and professional associations.</p>
Business involvement	Product manufacturers, retailers, service providers
Target audience	Consumer and commercial audiences
Available material	<p>WaterSense Program Guidelines: www.epa.gov/WaterSense/docs/program_guidelines508.pdf</p> <p>WaterSense Product Certification System: www.epa.gov/watersense/specs/certification.htm</p>
Key terms	Product certification and labeling, water efficiency and performance criteria

Name	The Water Stewardship Initiative (WSI)
Date of creation	November 2006
Key contacts	Michael Spencer: spencer@waterstewardshipinitiative.com Angus Kinnaird kinnaird@waterstewardshipinitiative.com
Website	www.waterstewardshipinitiative.com/
Objectives	<p>Improve management, performance and impacts of major water users through commitment to a global water stewardship standard, credible verification process and strong brand that will identify and reward responsible water users</p> <p>Initiated by businesses interested in risk management and recognition for superior water performance; adopted “stewardship” model to recognize socially, economically and environmentally responsible freshwater usage</p>
Key activities	<ul style="list-style-type: none"> ➤ Establish widely endorsed standards for responsible and sustainable water use by major users ➤ Define criteria and translate these into verification programs ➤ Establish certification systems ➤ Develop and promote a licensed brand identity system for certified users
Geographic and sectoral focus	Australia initially and then develop projects in the Asia Pacific region Cross-sectoral with a focus on high volume water users
Approach	Multi-stakeholder (transparent and inclusive endorsement process) Voluntary program Seeking to establish a member-based entity that can generate on-going financial support to further drive the development and commercialization of water stewardship
Timeline	Pre-pilot study in June 2009, further pilot programs late 2009 early 2010
Participants and partners	<p>Support from Landcare Australia,⁶ the Australian Government’s National Water Commission and Murray Darling Basin Commission; a wide range of Australian commercial sponsors (incl. South East Water, Westpac, Coca Cola Amatil, Foster’s Group, Timbercorp)</p> <p>Founding partner of the Alliance for Water Stewardship to ensure global consistency and alignment on responsible water use principles and criteria</p>
Business involvement	Sector representation on WSI Reference Group, financial support and participation in forums and workshops to develop water standard
Target audience	High volume water users (agriculture, manufacturing, commercial buildings, institutional water users, major events, water retailers, catchment management authorities, forestry, construction, infrastructure and government)
Available material	<p>Water Stewardship Options Paper (September 2008) upon request: info@waterstewardship.com</p> <p>Third Water Stewardship Forum, Summary of Outcomes (October 2008): www.waterstewardshipinitiative.com/pdf_documents/WSF3_ForumReport_Oct08.pdf</p> <p>Second Water Stewardship Forum, Summary of Outcomes (July 2007): www.waterstewardshipinitiative.com/pdf_documents/WSF_Summary_of_Outcomes.pdf</p> <p>Conceptual Operating Model: www.waterstewardshipinitiative.com/pdf_documents/What_is_Water_Stewardship.pdf</p>
Key terms	Water stewardship, standards, certification, brand identity

⁶ www.landcareonline.com.au/

Name	WBCSD Global Water Tool©
Date of creation	August 2007, updated in March 2009
Organization	World Business Council for Sustainable Development (WBCSD) , a CEO-led global association of some 200 companies dealing exclusively with business and sustainable development
Key contact	Eva Zabey : zabey@wbcsd.org
Website	www.wbcsd.org/web/watertool.htm
Objectives	<ul style="list-style-type: none"> ➤ Map a company's water use and assess water risks relative to global operations and supply chain by comparing sites with validated water and sanitation data on a country and watershed basis ➤ Establish relative water risks in a company's portfolio to prioritize action now and in the future ➤ Create an effective knowledge base for driving improved water consumption and efficiency ➤ Enable effective communication with internal and external stakeholders
Key features	<p>The tool is composed of an Excel workbook, an online mapping system that plots site locations with external water datasets and a spatial viewing via Google Earth interface.</p> <p>It generates automatic outputs including GRI water indicators, inventories (water consumption and efficiency), downloadable metrics charts with combined company and country watershed data and geographic mapping.</p> <p>The tool allows the user to enter water-related data for suppliers and includes staff presence when accounting for water use.</p>
Geographic and sectoral focus	Global and cross-sectoral
Approach	<ul style="list-style-type: none"> ➤ Collective voluntary effort led by business in cooperation with NGOs, academia and global water data providers. ➤ Free of charge and easy to use. ➤ No need to register to use the tool.
Participants and partners	Advisory board of 22 WBCSD member companies led by CH2M HILL, the Global Reporting Initiative, The Nature Conservancy, and data providers (UN FAO, WHO and UNICEF, WRI and the University of New Hampshire)
Business involvement	The advisory board represented multiple sectors of industry that developed, pilot-tested and used the tool ⁷
Target audience	Business and other organizations that operate in multiple countries
Available material	Excel file to download, flyer, generic PowerPoint presentation, company testimonials, flash animation
Key terms	Risk assessment, water inventory, efficiency metrics, GRI water performance indicators

⁷ It included Air Products and Chemicals, Alcan, Alcoa, Anglo American, Borealis, CH2M HILL, ConocoPhillips, Degussa, The Dow Chemical Company, DuPont, GrupoNueva, Holcim, ITT, Kimberly Clark, Lafarge, PepsiCo, Petro-Canada, Rio Tinto, Sanyo, Shell, Suez, Syngenta, Unilever.

Companion glossary of water sustainability terms

In as much as water sustainability is a comparatively new and presently evolving concept, terminology used to describe these initiatives is not always commonly understood or consistently used. The lack of a common and accessible language with which to discuss and measure water sustainability and to consider the impacts of human water use on ecosystems and resources has been identified as an obstacle to progress toward sustainable water management. The WBCSD Secretariat together with IUCN and technical input from NCASI has therefore taken the initiative to begin development of a glossary of terms and definitions related to sustainable water management.

The glossary provided here includes terms divided into three categories:

- (1) Terms commonly used in water hydrology science
- (2) Terms and concepts with definitions associated uniquely to particular water initiatives, such as water footprint
- (3) Concepts or states of condition in water resource management – representing ideas and often used without a precise definition in mind (evolving understanding of their use), such as water consumption.

The terms and definitions are color-coded to indicate the above referenced categories. Where appropriate, references for the definitions are provided. Neither the list of terms or references for those terms should be considered exhaustive.

In this glossary, the authors intend to recognize terms commonly used in the water sustainability dialogue and to denote their specific or general meanings. Like the entire document, this glossary should be considered “living” and will be updated periodically as water sustainability terms evolve and/or become more consistent in their usage. Those using the glossary are encouraged to provide feedback and suggestions (water@wbcsd.org). It is the authors’ hope that this glossary will be valuable to those practicing or entering the field of sustainable water management. The reader should also note that other glossaries exist, some of which are noted at the end of this section.

Organization of the glossary

Terms within the alphabetically arranged glossary fall into three categories. These categories are distinguished as follows:

<u>blue</u> (bold and underlined)	Terms common in hydrology science; definitions are drawn from Glossary of Hydrology (GH), UN World Water Assessment Program: www.cig.ensmp.fr/~hubert/glu/HINDEN.HTM unless otherwise stated.
green (normal font)	Terms and concepts with definitions associated uniquely to particular water initiatives.
<i>red (italic)</i>	Concepts or states of condition in water resource management. These terms represent ideas and are often used without a precise definition in mind.

Term	Definition(s)	Source
<u>abiotic</u>	Pertaining to the non-living part of an ecosystem or to an environment where life is absent. Water is an abiotic resource.	GH
<u>abstraction</u>	Removal of water from any source, either permanently or temporarily. Note: abstracted water may not actually be <i>consumed</i> . See water withdrawal.	GH
<u>acidification</u>	Change in an environment's natural chemical balance caused by an increase in the concentration of acidic elements.	European Environment Agency
<i>allocative efficiency</i>	The allocation of water resources in a way that maximizes the net benefit attained through the use of water across a range of applications -- household consumption, food, production, consumer goods, employment and urbanization.	
<u>aquifer</u>	Permeable water-bearing formation capable of yielding exploitable quantities of water.	GH
<i>Blue water</i>	The liquid flowing in rivers, lakes and aquifers.	SIWI, IFPRI, IUCN, IWMI 2005
blue water footprint	The volume of surface and groundwater evaporated as a result of the production of the product or service. For example, for crop production, the "blue" component is defined as the sum of the evaporation of irrigation water from the field and the evaporation of water from irrigation canals and artificial storage reservoirs. For industrial production or services, the "blue" component is defined as the amount of water withdrawn from ground- or surface water that does not return to the system from which it came.	Gerbens-Leenes and Hoekstra 2008
boundary	The boundary for a sustainability report refers to the range of entities whose performance is covered in the organization's sustainability report	GRI

Term	Definition(s)	Source
<i>boundary</i>	The limit or extent to which water data, indicators, or impacts are considered	
<u>brackish water</u>	Water containing salts at a concentration significantly less than that of sea water but in amounts that exceed normally acceptable standards for municipal, domestic and irrigation uses. The concentration of total dissolved salts is usually in the range 1,000 to 10,000 mg/l.	GH
<u>catchment</u>	Area having a common outlet for its surface runoff. Synonyms include: drainage area, river basin and watershed.	GH
<i>consumption (of water)</i>	<p>The term water “consumption” is neither consistently defined nor consistently used.</p> <p>In general it is meant to represent an amount of water that was used but not returned to its proximate source. Water evaporated, transpired, incorporated into products, crops or waste, consumed by man or livestock, or otherwise removed from the local resource is often defined as “consumed”. In some cases water that is polluted to an extent prohibiting its use by others wishing access is termed “consumption”.</p> <p>Also referred to as consumptive water use.</p>	
<i>degradation</i>	A concept related to the lowering in quality of a water body.	
Degradative water use	Describes a quality change in water used and released back to the same watershed.	Pfister et al. 2009
<u>Depletion</u>	Continued withdrawal of water from groundwater or other water body at a rate greater than the rate of replenishment.	GH
direct water use	Refers to the water used by a consumer or producer itself (i.e., water used at home; water used for producing, manufacturing and supporting activities). The term contrasts with “indirect water use”.	Gerbens-Leenes and Hoekstra 2008
<u>drainage area</u>	Area having a common outlet for its surface runoff. Synonyms include: catchment, river basin, and watershed.	GH
ecological footprint	A resource accounting tool that measures the amount of biologically productive land and sea area an individual, a region, all of humanity, or a human activity requires to produce the resources it consumes and absorb the waste it generates, and compares this measurement to how much land and sea area is available.	Global Footprint Network
<i>ecosystem services</i>	The benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious, and other non-material benefits. The classification of water as a provisioning service rather than a regulating service is debated, but this does not affect its general meaning.	Millennium Ecosystem Assessment
<u>effluent</u>	See water discharge.	GH

Term	Definition(s)	Source
embedded water	See “virtual water”.	
embodied water	See “virtual water”.	
<i>environmental flow</i>	A concept related to the quality and quantity of water within any surface or subsurface water body that provides water flows sufficient to maintain ecosystem functions and the goods and services dependent on those functions.	Dyson et al. 2003 IUCN
<u>eutrophication</u>	The slow, natural aging process during which a lake, estuary or bay evolves into a bog or marsh and eventually disappears. During the later stages of eutrophication the water body is choked by abundant plant life due to higher levels of nutritive compounds such as nitrogen and phosphorus. Human activities can accelerate the process.	US EPA
<u>evapotranspiration</u>	Quantity of water transferred from the soil to the atmosphere by evaporation and plant transpiration.	GH
<u>fossil water</u>	Water infiltrated into an aquifer during an ancient geological period under climatic and morphological conditions different from the present and stored since that time.	GH
<u>freshwater</u>	Naturally occurring water having a low concentration of salts, or generally accepted as suitable for abstraction and treatment to produce potable water.	GH
green water	Water in soils and vegetation in the form of soil moisture and evaporation.	SIWI, IFPRI, IUCN, IWMI 2005
green water footprint	The volume of rainwater and irrigated water that evaporated during the production process. This is mainly relevant for agricultural products (e.g., crops or trees) where it refers to the total rainwater evapotranspiration (from fields and plants).	Gerbens-Leenes and Hoekstra 2008
<i>grey water</i>	Water discharged from a process use that may be considered for recycle/reuse.	GEMI
grey water footprint	The volume of polluted water that associates with the production of goods and services. It is quantified as the volume of water that is required to dilute pollutants to such an extent that the quality of the ambient water remains above agreed water quality standards.	Gerbens-Leenes and Hoekstra 2008
<u>groundwater</u>	Subsurface water occupying the saturated zone.	GH
hidden water	See “virtual water”.	
indirect water use	The water used behind the products consumed by a consumer or used as inputs by a producer (i.e., water used in the production and supply chain of the goods and services consumed; water used in a business's supply chain).	Gerbens-Leenes and Hoekstra 2008

Term	Definition(s)	Source
in-stream water use	The use of water in situ (e.g., for a dam for hydroelectric power or navigational transport on a river).	Bayart et al. 2008 Owens 2002
life cycle assessment (LCA)	Process to evaluate the environmental burdens associated with a product, process, or activity by identifying and quantifying energy and materials used and wastes released to the environment; to assess the impact of those energy and materials used and released to the environment; and to identify and evaluate opportunities to affect environmental improvements. The assessment includes the entire life cycle of the product, process or activity, encompassing, extracting and processing raw materials; manufacturing, transportation and distribution; use, reuse maintenance; recycling and final disposal.	SETAC
<u>non-renewable water resources</u>	Groundwater bodies (deep aquifers) that have a negligible rate of recharge on the human time-scale and thus can be considered as non-renewable. While renewable water resources are expressed in flows, non-renewable water resources have to be expressed in quantity (stock). See also fossil water.	FAO
off-stream freshwater use	The use of water that requires removal from the natural body of water or groundwater aquifer (e.g., pumping or diversion for municipal, agricultural or industrial uses).	Bayart et al. 2008 Owens 2002
<i>performance indicator</i>	Qualitative or quantitative information about results or outcomes associated with and effort that is comparable and demonstrates change over time.	GRI
<u>pollutant/pollution</u>	A substance/the addition of a substance that impairs the suitability of water for a considered purpose.	GH
<u>precipitation</u>	(1) Liquid or solid products of the condensation of water vapor falling from clouds or deposited from air on the ground. (2) Amount of precipitation (as defined under (1)) on a unit of horizontal surface per unit time.	GH
<i>recycled water/reused water/reclaimed water</i>	See water recycling/reuse	
<u>renewable water</u>	A concept referring to water quantities that are maintained by the hydrologic cycle and thus renewed on a predictable basis.	FAO
<u>reservoir</u>	Body of water, either natural or man-made, used for storage, regulation and control of water resources.	GH
<i>resilience</i>	(1) A measure of the magnitude of disturbance that can be absorbed before the ecosystem changes its structure by changing the variables and processes that control behavior. (2) The measure of resistance to disturbance and the speed of return to the equilibrium state of an ecosystem.	European Environment Agency

Term	Definition(s)	Source
<u>return flow</u>	Any flow that returns to a stream channel or to the groundwater after use. Note: the quality, quantity, temperature and point of return to a watershed or aquifer compared to pre-withdrawal conditions are important elements of sustainability evaluation.	GH GEMI
<u>river basin</u>	Area having a common outlet for its surface runoff. Synonyms include: catchment, drainage area and watershed.	GH
<u>runoff</u>	The part of precipitation that appears as streamflow.	GH
<u>seepage</u>	(1) Slow movement of water in a porous medium. (2) Loss of water by infiltration into the soil from a canal or other body of water. (3) Water emerging from a rock or the ground along a line or surface.	GH
<u>streamflow</u>	General term for water flowing in a stream or river channel.	GH
<u>surface water</u>	Water that flows over or is stored on the ground surface.	GH
<i>sustainable water resource</i>	The withdrawals are taken from renewable sources; the withdrawal is within the renewal capacity of that source; and then the disposition or return of the water allows others to use the water in the original river basin or watershed, usually downstream.	Owens 2002
<u>toxic/toxicity</u>	The degree to which a substance or mixture of substances can harm humans or animals. Acute toxicity involves harmful effects in an organism through a single or short-term exposure. Chronic toxicity is the ability of a substance or mixture of substances to cause harmful effects over an extended period, usually upon repeated or continuous exposure sometimes lasting for the entire life of the exposed organism.	US EPA, European Environment Agency
<u>treated wastewater</u>	Water that has received primary, secondary or advanced treatment to reduce its levels of pollutants or health hazards and is subsequently released back to the environment. It can also be a form of effluent.	
<i>treated water</i>	Water that has been cleaned and/or disinfected, usually for purposes of producing potable water.	
virtual water	The virtual-water-content of a product (a commodity, good or service) is the volume of freshwater used to produce the product, measured at the place where the products was actually produced (production-site definition). It refers to the sum of the water use in the various steps of the production chain. The virtual-water content of a product can also be defined as the volume of water that would have been required to produce the product at the place where the product is consumed (consumption-site definition). The adjective "virtual" refers to the fact that most of the water used to produce a product is not contained in the product. The real water content of products is generally negligible compared with the virtual water content. Can also be referred to as "embedded", "embodied" or "hidden" water.	Hoekstra and Chapagain 2007

Term	Definition(s)	Source
<u>wastewater</u>	Water that is of no further immediate value to the purpose for which it was used or in the pursuit of which it was produced because of its quality, quantity or time of occurrence. However, wastewater from one user can be a potential supply to a user elsewhere. Cooling water is not considered to be wastewater.	United Nations Food and Agriculture Organization
<u>watershed</u>	Area having a common outlet for its surface runoff. Synonyms include: catchment, drainage area, and river basin.	GH
<i>water allocation</i>	In a hydrologic system in which there are multiple uses or demands for water, the process of assigning specific amounts of water to be devoted to a given purpose or use.	
<i>water availability</i>	A concept expressing the amount of water that is accessible at a location.	
<u>water balance</u>	Inventory of water based on the principle that during a certain time interval, the total water gain to a given catchment area or body of water must equal the total water loss plus the net change in storage in the catchment or body of water.	GH
<i>water consumption</i>	See “consumption (of water)”.	
<i>water conservation</i>	The practice of minimizing the use of water and/or the consumption of water.	
<u>water discharge</u>	(1) Liquid flowing out of a container or other system. (2) Water or wastewater flowing out of a reservoir or treatment plant. (3) Outflowing branch of a main stream or lake.	GH
<i>water demand</i>	Actual quantity of water required for various needs over a given period as conditioned by economic, environmental and/or social factors.	
<i>water efficiency</i>	Generally, the ratio of water actually used for an intended purpose and the amount of water applied for that purpose.	
water footprint	An indicator of water use that looks at both direct and indirect water use. The water footprint of a business is the volume of freshwater used to produce its goods and services. Water use is measured in terms of water volumes consumed (evaporated) and/or polluted per unit of time. The footprint includes green, blue and grey water components defined elsewhere in this glossary. It is a geographically explicit indicator, not only showing volumes of water use and pollution, but also the locations.	Gerbens-Leenes and Hoekstra 2008
Water harvesting	The process of collecting and concentrating rainfall as runoff from a larger catchment area to be used in a smaller area. The collected water is either directly applied to the cropping area and stored in the soil profile for immediate uptake by the crop or stored in a water reservoir for future productive use.	IWMI

Term	Definition(s)	Source
<i>water intensity</i>	Usually taken to be the ratio between a process, product, business, or human freshwater use and a defined unit of production or population. In some circumstances “water consumption” is substituted for “water use”.	
<i>water loss</i>	A conceptual term referring to water that escapes from a system due either to natural or anthropogenic causes.	
water neutral/ water neutrality	The term relates to reducing and offsetting the impacts of “water footprints”. To achieve “neutrality”, the water footprint of an activity is reduced as much as reasonably possible and offsets are then made to the negative externalities of the remaining water footprint.	Hoekstra 2008
water offsets	Offsetting the negative impacts of a water footprint by investing in a more sustainable and equitable use of water in the hydrological units in which the impacts of the remaining water footprint are located.	Hoekstra 2008
water positive/ positive water balance	To save and replenish more water in its plants and communities than the total water it uses in a country. A positive water balance occurs when the credits (in-plant water recharge and harvesting, water recharged through community programs, and savings through agricultural interventions) are greater than the debits (total water used in manufacturing process).	PepsiCo
<i>water recycling/reuse</i> <i>reclaimed water</i>	Terms used to generally describe the reuse of water for purposes either similar to or different from the first use. The term “recycled water” is most often used to describe water reuse in the same or similar processes. The term “reclaimed water” often applies to water that is used for a secondary purpose requiring a lower quality level as compared to the first use.	
<i>water recycling/reuse</i>	The act of processing used water/wastewater through another cycle before discharge to final treatment and/or discharge to the environment. In general, there are three types of water recycling/reuse: <ol style="list-style-type: none"> 1. Wastewater recycled back in the same process or higher use of recycled water in the process cycle 2. Wastewater recycled/reused in a different process, but within the same facility 3. Wastewater reused at another of the reporting organization’s facilities. 	GRI
<u>Water quality</u>	Water quality refers to the physical, chemical, biological and organoleptic (taste-related) properties of water.	OECD
<i>water rights</i>	Governmental or other entitlements allowing the access, use or management of water resources.	
<i>water scarcity</i> <i>water shortage</i> <i>water stress</i>	Terms such as water shortage, scarcity and stress are commonly used interchangeably. They all related to an excess of demand over available supply. Water shortage describes a state where levels of water supply do not meet minimum levels necessary for basic needs. Water scarcity is a more relative concept describing the relationship between demand for water and its availability. And water stress would be the symptomatic consequence of scarcity.	

Term	Definition(s)	Source
water scarcity	<ol style="list-style-type: none"> 1. Physical water scarcity occurs when the demand outstrips the lands ability to provide the needed water (implying that dry areas are not necessarily water scarce) 2. Economic water scarcity results from insufficient human capacity or financial resources to provide water 	IWMI
water shortage	When annual water supplies are below 1,000 cubic meters per person, producing chronic shortages of freshwater and subsequent negative effects on food production, economic development and ecosystem health.	WRI
water stress	When a country's annual water supplies are below 1,700 cubic meters per person and are characterized by periodic water shortages.	WRI
water stress index	Ranging from 0 to 1, indicates the proportion of consumptive water use that deprives other users of freshwater.	Pfister et al. 2009
<i>water supply</i>	See "water availability".	
<i>water trading</i>	A concept of water transfer and use borne out of increased demand by urban populations for water whereby a holder of water rights is allowed to sell or lease those rights.	
<u>water use</u>	Refers to use of water by agriculture, industry, energy production and households, including in-stream uses such as fishing, recreation, transportation and waste disposal.	OECD
<u>water withdrawal</u>	Removal of water from any source, either permanently or temporarily. See water abstraction.	GH

Other glossaries:

Aquastat: FAO's Information System on Water and Agriculture:
<http://www.fao.org/nr/water/aquastat/glossary/index.jsp>

Glossary of Hydrology, UN Word Water Assessment Program:
<http://www.cig.ensmp.fr/~hubert/glu/HINDEN.HTM>

OECD Glossary of Statistical Terms:
<http://stats.oecd.org/glossary/index.htm>

The Water Footprint Network Online Glossary:
<http://www.waterfootprint.org/?page=files/Glossary>

UNDP Water Wiki:
<http://waterwiki.net/index.php/Concepts / Definitions / Glossary>

World Meteorological Organization, Metoeterm, Terminology Management Tool:
<http://meteoterm.wmo.int/meteoterm>

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<http://www.globalreporting.org/NR/rdonlyres/ED9E9B36-AB54-4DE1-BFF2-5F735235CA44/0/G3_GuidelinesENU.pdf>
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<http://earthtrends.wri.org/pdf_library/maps/drymap28.pdf>

ANNEX: submission / update form

We are committed in keeping this overview up to date. If you want to suggest a new initiative or update information concerning an initiative that is already included in the document, please fill in the form below and return it either by e-mail to water@wbcsd.org, with water as the subject, or by fax to +41 (0)22 839 3131.

The WBCSD water project core team, together with IUCN, will review your submission and decide whether it fits within the scope of the initiatives targeted by this overview, i.e., business-relevant initiatives that are addressing the challenge of better defining sustainable water management. In particular:

- Tools that *support the identification of risks and opportunities* related to water use and impacts
- Initiatives and tools that aim to help business *measure water use and assess water-related impacts*
- Approaches to *developing response options*, addressing questions such as how to report, what to disclose and how to recognize responsible water managers through certification schemes.

Name	
Date of creation	
Organization	
Key contact	
Website	
Objectives	
Key activities	
Scope	
Approach	
Timeline	
Participants and partners	
Business involvement	
Target audience	
Available material	
Key terms	

MANY THANKS
We will keep you informed.