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Water Stewardship Goals for the Electric Power Sector

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Technical Update, December 2018

EPRI Project Manager

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ABSTRACT

Well-defined and achievable water stewardship goals can be an effective tool for an electric power utility aiming to respond to water risks proactively and systematically across their fleet. This technical brief explores the business case for setting water goals, describes specific types of goals and associated performance targets, and provides guidance on how to establish and implement water goals, and communicate progress to interested stakeholders. A water goal is a time-bound ambition with quantitative target(s), which may be focused internally on operations (e.g., water efficiency or alternate supplies), and/or focused externally (e.g., risk assessment, watershed engagement, community engagement, supply chains). The business case for setting water goals may include: mitigation of water-related risk; response to inquiry; opportunities for positive impact; financial return on investment; and employee engagement. Water goals might be established through a step-wise process that considers where water is used, associated risks to the company, and feasibility of attainment in context of available resources and other considerations. This study can be used to inform the collective team of experts in water operations, sustainability, and public affairs as well as senior management about the value of, process for, and benefits of developing water stewardship goals.

Keywords

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PRIMARY AUDIENCE: Water subject matter experts and sustainability staff at electric power companies, and the public

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KEY RESEARCH QUESTION

The process of developing and implementing water stewardship goals is of interest to Electric Power Research Institute (EPRI) members, recognizing the role that water goals can play in reducing risk, addressing stakeholder concerns, and sustainability reporting. This technical brief explores the business case for setting water goals, describes specific types of goals and associated performance targets, and provides guidance on how to establish and implement water goals, and communicate progress to interested stakeholders.

RESEARCH OVERVIEW

This study reviewed and synthesized key findings from relevant EPRI reports, member feedback and needs, and relevant materials prepared by corporations and NGOs active in corporate water stewardship. Findings were considered in the context of relevance to the electric power sector, and information is presented that addresses key considerations in the development and implementation of water stewardship goals. Numerous specific examples are provided.

KEY FINDINGS

- A water goal is a time-bound ambition with quantitative target(s), which may be focused internally on operations (e.g., water efficiency or alternate supplies), and/or focused externally (e.g., risk assessment, watershed engagement, community engagement, supply chains).
- The business case for setting water goals may include: mitigation of water-related risk; response to inquiry; opportunities for positive impact; financial return on investment; and employee engagement.
- Water goals might be established through a step-wise process that considers where water is used, associated risks to the company, and feasibility of attainment in context of available resources and other considerations.
- EPRI has developed a set of scientifically-based water metrics for consistently measuring and reporting water use and practices to a variety of audiences; these metrics may support documentation of internal or external water goals.
- Potential outlets for communications related to water goals include voluntary reporting platforms, corporate sustainability reports, industry-specific benchmarking and reporting templates, community forums, and customer and employee communications.
- Challenges in setting water goals may include justifying the business case to senior management and barriers to ensuring a commitment of resource investments as water typically competes with other environmental issues (e.g., greenhouse gas (GHG) emissions).

WHY THIS MATTERS

Well-defined and achievable water stewardship goals can be an effective tool for an electric power utility aiming to respond to water risks proactively and systematically across their fleet. Many companies are already excelling at internal water management driven by operations experts, as well as natural resource stewardship investments championed by sustainability leaders. Establishing water stewardship goals can bring these activities into one framework and incentivize further investments. Aggressive goal setting and strong leadership commitments could strengthen the connection between operations and sustainability branches of a company, support quantification and justification of claims, and encourage a company to strive for progress beyond current activities. Water goals can catalyze action by shifting company culture around water, and support assessment of positive impacts from collective action with watershed partners. When constructed as context-based, time-bound ambitions with quantitative targets, water goals can be an effective tool to help ensure that a company will continue to operate successfully and grow sustainably.

HOW TO APPLY RESULTS

This study can be used to inform the collective team of experts in water operations, sustainability, and public affairs as well as senior management about the value of, process for, and benefits of developing water stewardship goals. Project findings could help spearhead conversations and provide direction for companies looking to set a water goal but unclear how to set a successful path forward. The applicability of water stewardship goals to enhance a company's water sustainability strategy is unique for each organization. Specific portions of the guidance may be relevant, whereas others may not apply. Also, the example goals provided should be refined and adapted to the conditions of each organization.

LEARNING AND ENGAGEMENT OPPORTUNITIES

- In October and November 2018, P55 conducted two webcasts:
  - Evolution of Water Stewardship Goals, Business Case and Process for Establishing Water Goals
  - Types of Water Goals and Making Them Actionable

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PROGRAM: Program 55 – Water Availability and Ecological Risk

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INTRODUCTION AND BACKGROUND

The process of developing and implementing water stewardship goals is of interest to EPRI members, recognizing the role that water goals can play in reducing risk, sustainability reporting and addressing stakeholder concerns. This Technical Brief provides electric power-specific information related to the development and implementation of water stewardship goals, addressing water withdrawal, consumption and the local watershed context.

Water goals are not driven by regulations; rather they are an integral component of a company's sustainability strategy. A water goal is defined in this context as a time-bound ambition with quantitative target(s), which may include:

- Internally-focused operational goals
- Externally-oriented watershed goals
- Supply chain goals

Evolution of corporate water stewardship goals

The evolution of water goals parallels the progression of corporate water stewardship over the past 10-15 years. Prior to this period, leading industries focused primarily on water management (i.e., oversight and control over how water interacts with operations), driven by regulatory compliance, efficiency, and cost reduction. Significant water and cost saving have been realized due to enhanced monitoring, water recycling and reuse and other efficiency practices.

As the social and economic impacts of growing pressures on the planet's water resources have become more apparent, water-intensive industries have faced increased media attention and higher expectations related to water use. Businesses and investors increasingly recognize the material risks associated with water stress, which can lead to supply disruptions, higher operating costs and growth constraints (Ceres, 2018). The first to face these pressures and respond by setting water goals were global food and beverage companies, due to the sector's heavy dependence on water; agriculture accounts for 70% of freshwater withdrawals. More recent years have seen an increase in water goal setting across other sectors including manufacturing, hospitality, and information technology.

The most common water stewardship goals are focused on operational water efficiency. While an important component of an overall water strategy, efficiency measures can reduce costs and risk due to the company's water use but not external risks due to the river basin. CDP (2017) reports that 56% of the world's largest publicly-listed companies have set water targets or goals, but the majority "remain short-term in nature and do not adequately account for the sustainable thresholds of the basins upon which companies rely."

In the global dialogue on water stewardship, there is a growing emphasis on the importance of considering the local water context (i.e., social, economic, and environmental conditions) and collaborating with others to address shared water risks. These concepts are core to the Alliance for Water Stewardship Standard and the CEO Water Mandate's Water Stewardship Progression,

as well as the UN Sustainable Development Goals, or SDGs (UN, 2015), and ongoing efforts related to Context-Based Water Targets led by the Pacific Institute (2017). Brief descriptions of these initiatives are provided in Appendix B.

Electric power sector evolution towards water goals

Over the last few decades, the electric power sector has set quantitative, time-bound, and public-facing goals focused on greenhouse gas (GHG) emissions and renewable generation (EPRI, 2018a). Drivers for action include federal, state, and local level climate-related policies as well as a steady increase in stakeholder requests for companies to align efforts with the climate goal of the Paris agreement. Many companies, including electric power, have voluntarily developed climate-related goals. For example, 48% of Fortune 500 companies have set a carbon emissions reduction target and 63% of Fortune 100 companies have set one or more clean energy targets (WWF et al., 2017). A progression towards goals focused on water may be a logical next step.

Thermoelectric power accounts for 41 percent of total water withdrawals in the U.S., with approximately 3 percent of the withdrawn water being consumed (Dieter et al., 2018). As a large water using sector, electric power utilities have managed water from an internal perspective for decades, with primary focus on improved efficiency and discharge quality to meet regulations. A few electric power companies have established public-facing water stewardship goals, and many companies routinely report water use (withdrawal and consumption) and trends. These data and reporting practices could help facilitate the development and implementation of water goals.

Many electric power companies are currently engaging in their watersheds through natural resource stewardship activities. Activities primarily focus on ecosystems, wildlife, and restoration; however, they may potentially result in water-related benefits that could connect to progress towards a corporate water goal.

EPRI has developed a set of scientifically-based water metrics to assist utilities in consistently measuring and reporting their water use and practices to a variety of audiences. (EPRI, 2015). These metrics include water quantity and water quality context-based metrics, assess actions beyond just internal water management, and could support documentation of internal or externally focused water goals.

With these components in place for the electric power industry, it could be timely for some companies to consider setting internal and/or external science-based water goals (Figure 1-1).

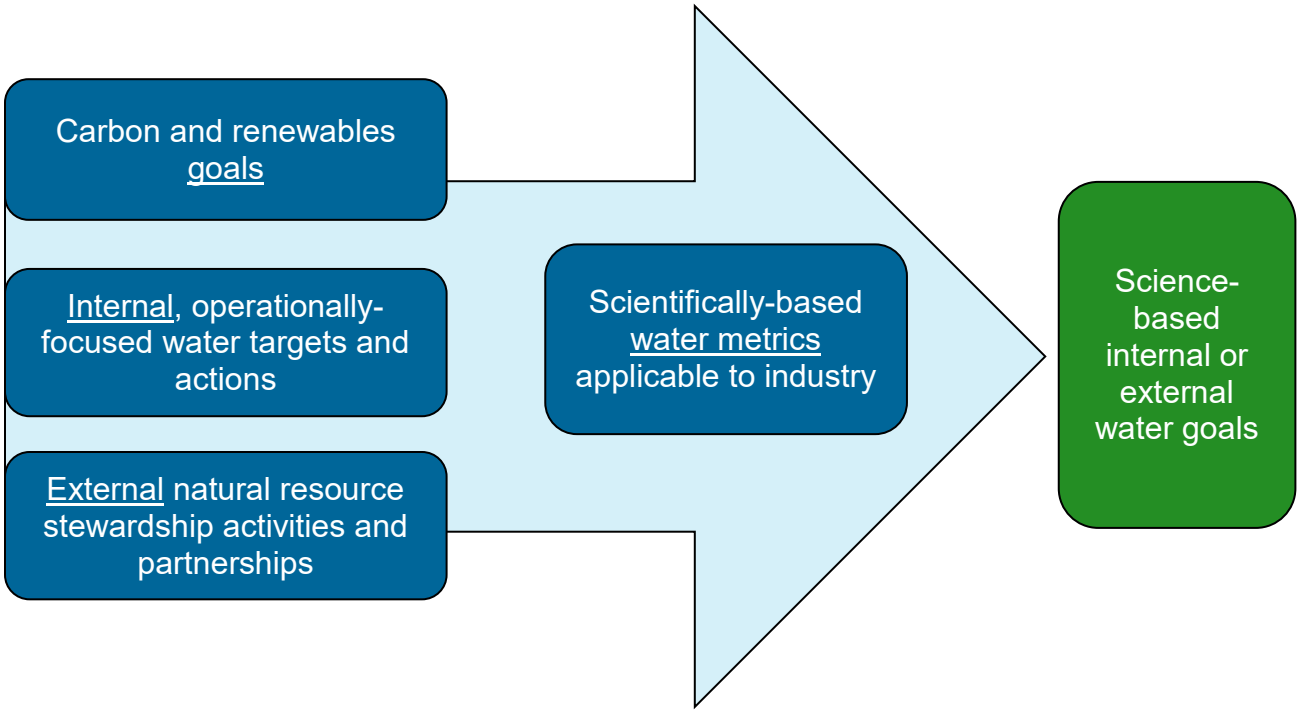


Figure 1-1
Electric power sector's evolution towards water goals

2
THE BUSINESS CASE

A critical step in considering water goals is a clear definition of the value that development and implementation of water goals can provide to a company. While the benefits of specific types of water goals vary, five general justifications for setting corporate water stewardship goals are described below.

Mitigation of water risk

For most companies, a key driver for water stewardship is mitigation of water-related risk (Figure 2-1). Physical (i.e., operational) risk may relate to water availability concerns such as insufficient supply, the need to adapt to growing variability (e.g., floods or droughts), or water infrastructure challenges. An electric utility may also face physical risk from water quality concerns such as poor quality source water or insufficient assimilative capacity for thermal discharge. Supply chain risk (e.g., sourcing fuel from water scarce regions) has the potential to disrupt operations. Regulatory risk may affect power generation facilities in terms of permitting new sites, as well as changing regulatory requirements driven by the Clean Water Act, the Endangered Species Act and environmental flow requirements. Even power facilities that are successfully managing water from both operational and regulatory standpoints may face reputational risks arising from poor public perception or legal challenge.

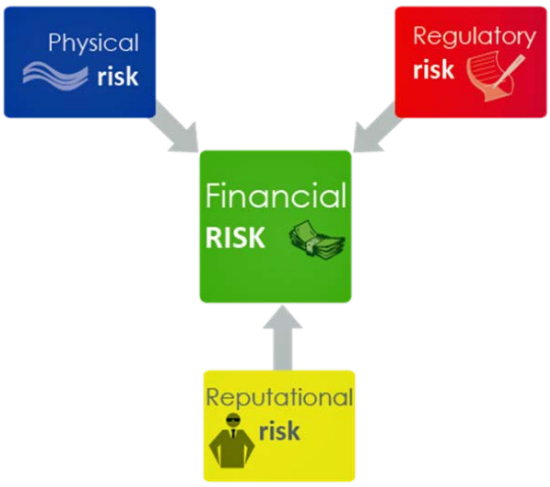


Figure 2-1
Financial risk due to water issues may stem from physical, regulatory and reputational risks

These types of water-related risks may contribute to financial risk. The direct costs of water are generally low and saving water onsite may not reduce utility bills, but water issues may contribute to indirect costs related to pumping, treatment and disposal, energy (heating, cooling), regulations (permitting, fines, and compliance management), and operations and management (O&M). Physical, regulatory or reputational issues may lead to power curtailments, investments in water storage or treatment infrastructure, or restriction of business growth. Available tools

such as the Water Risk Monetizer (Ecolab, 2018) and the Equarius Risk Analytics waterBeta indicator (ERA, 2018) allow companies to monetize water-specific business risks beyond direct water costs.

Response to inquiry

Credit rating agencies and bond investors are paying closer attention to corporate risk disclosures. Electric power utilities are increasingly asked to respond to disclosure requests from shareholders, NGOs and other stakeholders such as the CDP Water Survey or Global Reporting Initiative (GRI). These commonly used frameworks have evolved beyond water use accounting toward questions focused on climate-related risk and resiliency planning, supply chain engagement, water as a shared resource, stakeholder engagement, and water goals and targets.

Opportunities for positive net benefits

Water stewardship and goal setting can reach beyond activities focused on addressing negative impacts related to risks. A company may desire to go beyond "do no harm to the natural environment and communities" and aspire to achieving a net positive benefit. A water goal may provide a vehicle to contribute to positive external impacts, communicate on achievements and demonstrate leadership and initiative that is not driven by penalties and regulation.

Financial return on investment

Cost-benefit comparisons may inform project decisions and help build a business case for water stewardship. Watershed-based projects driven by corporate water goals may provide internal benefits to an electric utility by reducing water-related risk while also providing additional "outside the fence line" benefits to the ecosystem and community. Previous EPRI work explored how electric power utilities can incorporate recognition of natural capital and ecosystem services into business decision making (EPRI, 2018b). A general cost-benefit quantification methodology examines the costs of implementing watershed management projects, potential internal benefits to an electric utility, and external benefits to the community and ecosystem (Figure 2-2).

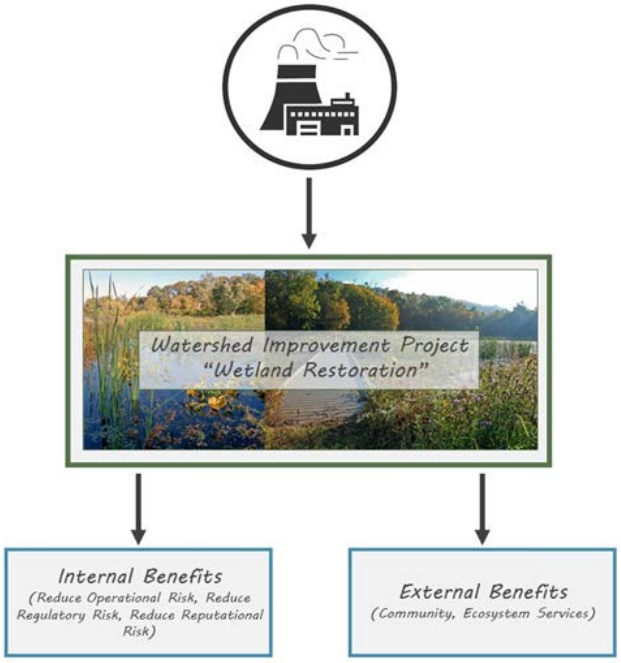


Figure 2-2
EPRI's cost-benefit quantification methodology examines the costs and benefits of implementing watershed management projects (EPRI, 2018b)

Employee engagement

Cultural identity is important for any organization. Sustainability practices can motivate worker productivity and ultimately business profitability. Opportunities for employees to support and participate in water stewardship efforts can help companies recruit and retain talent and provide a positive corporate culture around water. A recent employee engagement study reports that 58% of respondents consider a company's social and environmental commitments when deciding where to work and 88% of millennials (aged 27-35) feel their job is more fulfilling when they are provided opportunities to make a positive impact on social or environmental issues (Cone Communications, 2016).

3
MAKING GOALS ACTIONABLE

Water goals may address internal actions as well as external collective actions at the community or watershed scale (Figure 3-1). Several examples of internal, external and supply chain water goals and associated targets are provided in this section. The examples are intended to illustrate potential goals relevant to electric power; they do not represent a comprehensive list of all possibilities.

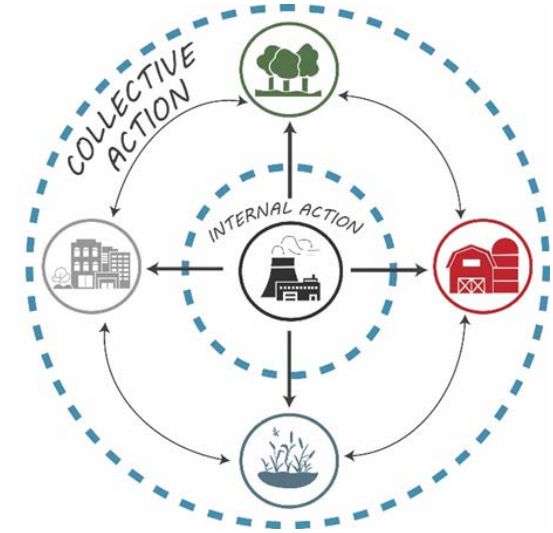


Figure 3-1
Water stewardship begins with internal actions associated with a company's operations and extends to collective action at a watershed or community scale

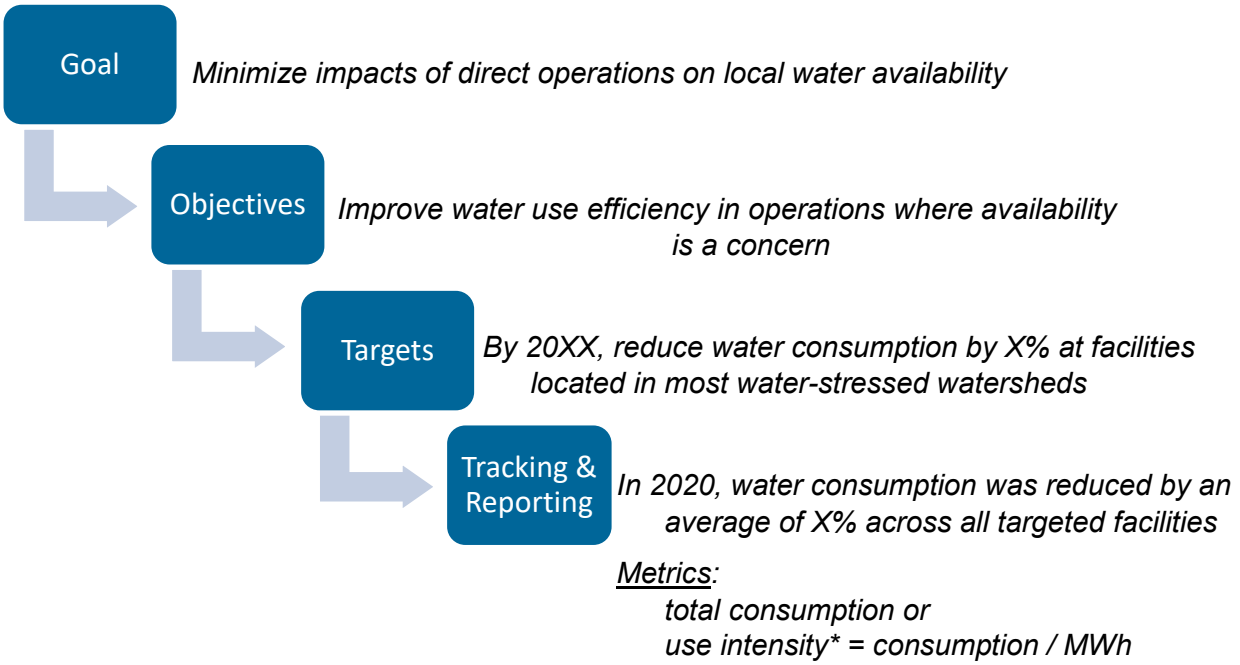
Accountability measures should be associated with each goal to ensure they are actionable. The examples that follow provide potential language related to goals, objectives, targets (quantitative and/or narrative), and metrics for tracking progress and communicating achievements.

Internally-Focused Water Goals

Water goals focused on reducing freshwater withdrawals may address improved operational efficiency or increased use of degraded water. Examples of each type of goal are provided below.

Water Efficiency Goal

Figure 3-2 provides an example of an internal water efficiency goal, with associated targets and metrics for reporting. Progress may be tracked with total consumption or use intensity metrics, as described in the EPRI report: *Evaluation of Water Management Metrics for the Electric Power Sector* (EPRI, 2015).



**See EPRI, 2015 (Evaluation of Water Management Metrics for the Electric Power Sector 3002006245) for additional information*

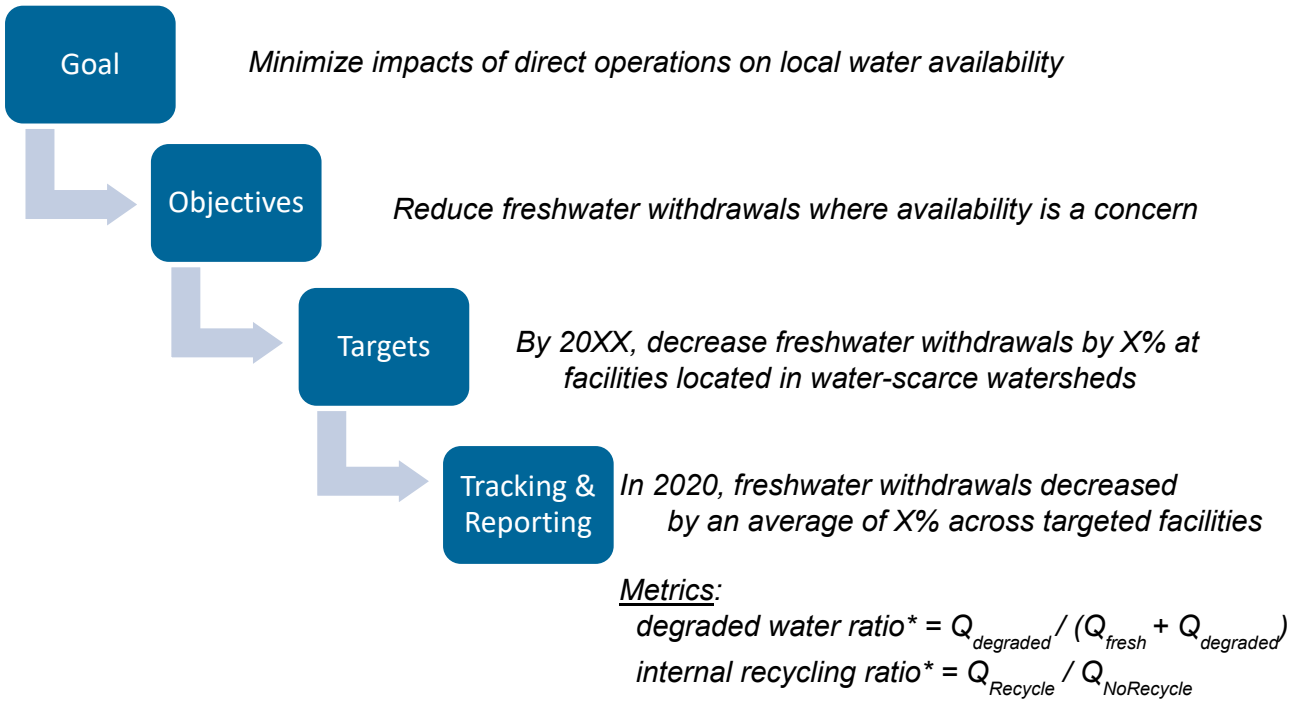
Figure 3-2
Water efficiency goal and associated targets and metrics for tracking and reporting

Considerations in setting a water efficiency goal:

- A goal should specify whether it relates to consumption or withdrawal, and both volumes should be reported; reference to a generic "water use" goal may be less effective (Figure 3-3).
- Facilities with notable consumption in water scarce regions might focus on efficiency goals.
- Opportunities to increase water efficiency at existing steam electric plants may be limited due to applicable cooling systems and good water practices already in place.
- Where water reduction corresponds to other activities (e.g., carbon reduction, plant closure, renewables goals), these causes can be noted when reporting.

Alternate Supply Goal

Where water scarcity is a concern, a company may establish a goal to reduce freshwater withdrawals by substituting alternate supplies such as reclaimed municipal wastewater, industrial grey water, produced water, or stormwater (EPRI, 2017). A company may also implement technologies or practices within the plant to internally recycle water so that freshwater cascades down from high quality to lower quality uses, or cycles of concentration for cooling water are increased, thus minimizing the need for fresh makeup water. An example goal with associated targets and metrics is shown in Figure 3-3.



*See EPRI (2015) for additional information

Figure 3-3
Alternate supply goal and associated targets and metrics for tracking and reporting

Considerations in setting an alternate supply goal:

- Supply reliability and quality requirements
- Costs and infrastructure needed for implementation
- Technical, operational, economic, environmental and political challenges
- Situations where downstream users (including ecosystems) rely on the degraded water could be avoided.

Externally-Oriented Water Goals

Engagement in local watersheds and communities might benefit from focusing on reducing risks to the business and addressing shared water challenges. A company may set an "intermediate" goal to identify the plants with the greatest water-related risks, to determine where to focus investments. A company may also set a goal focused on engagement in high-risk watersheds. Examples for both categories are provided below.

Risk Assessment Goal

Risk assessment can identify plants located in water-stressed watersheds and help a company identify "where to focus." A potential risk assessment goal with associated targets is provided in Figure 3-4.

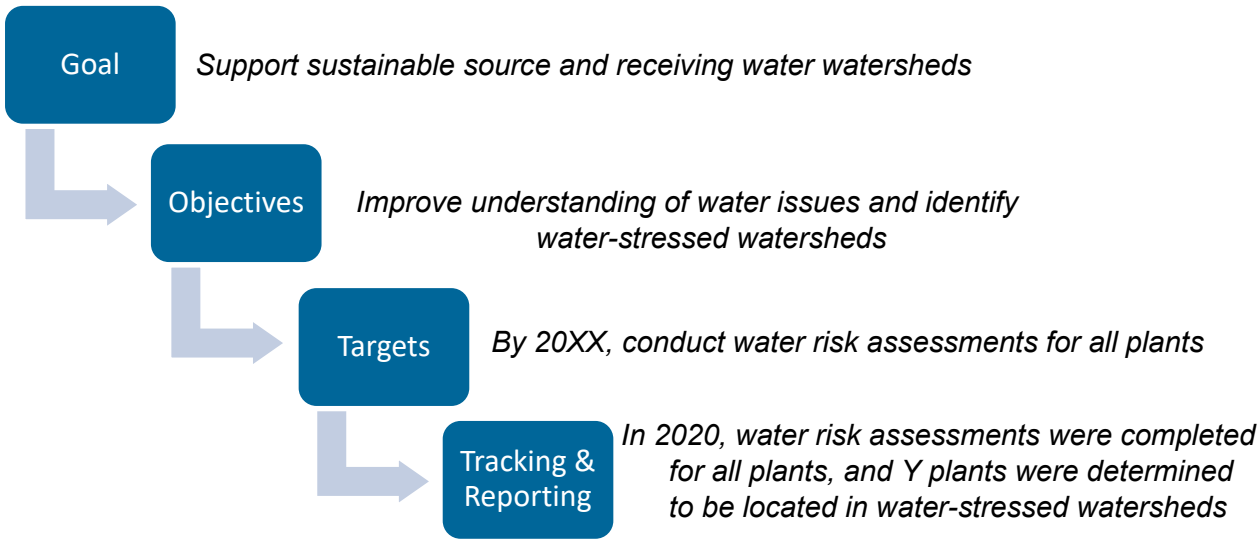


Figure 3-4
Risk assessment goal and associated targets and metrics for tracking and reporting

Considerations in setting a risk assessment goal:

- Risk may be physical (quantity and quality), reputational or regulatory.
- Water risk tools (e.g., WRI Aqueduct) provide a good first cut, and local data might also be considered.

Water Stewardship Engagement Goals

A company that operates in water-stressed watersheds may choose to set a goal and performance targets related to engagement in those watersheds. The process may start with a planning process to better understand water related issues, risks and opportunities, identify opportunities to collaborate with other users through common goals, and identify appropriate investments that address the company's risks and shared water challenges. This step of "what to do" may be accomplished through the preparation of water stewardship plans, and a time-bound target may be set around the completion of the documents. Examples include BUNGE which has the goal "Contribute to water management plans in areas where we operate that are subject to high water stress," and General Mills which has the goal "Champion the development of water stewardship plans for the company's most material and at-risk watersheds in its global value chain." This is consistent with the process outlined in the AWS Standard, a framework focused on development of site-specific water stewardship plans (AWS, 2018).

Companies may also choose to set a performance target related to implementing projects identified in the water stewardship plan. A quantitative target may be the number of projects completed by a certain year. An example of a target that is more directed at the output of investments is a "balance target" that links the volume saved or restored to a company's operational water consumption (Bass and Larson, 2015). Examples include Coca-Cola's balance target, "By 2020, safely return to communities and nature an amount of water equal to what we use in our finished beverages," or Intel's concise goal to "Restore 100% of global water use." Water balance targets may be particularly relevant in situations where there are limited opportunities to reduce operational water use (i.e., at or near best practice), yet the company is striving to set a meaningful, impactful goal. There is interest in the private sector for advancing methods to quantify the volumetric benefits of balance projects, and work is currently underway to develop an open source, common methodology to quantify benefits of water stewardship investments that is science-based, applicable across sectors and widely recognized and endorsed (WRI, et al., 2018).

Motivations for setting a balance target may include risk mitigation (including reputational risk) or the opportunity to connect with stakeholders. Some companies have found that balance targets can incentivize engagement, ease communications and support brand enhancement. Others have found balance targets to be helpful where there are limited opportunities to reduce operational water use (i.e., at or near best practice), and where there is opportunity to account for water benefits from ongoing and planned natural resource stewardship projects.

Figure 3-5 depicts an example of a watershed goal with performance targets related to watershed plans and balancing consumption.

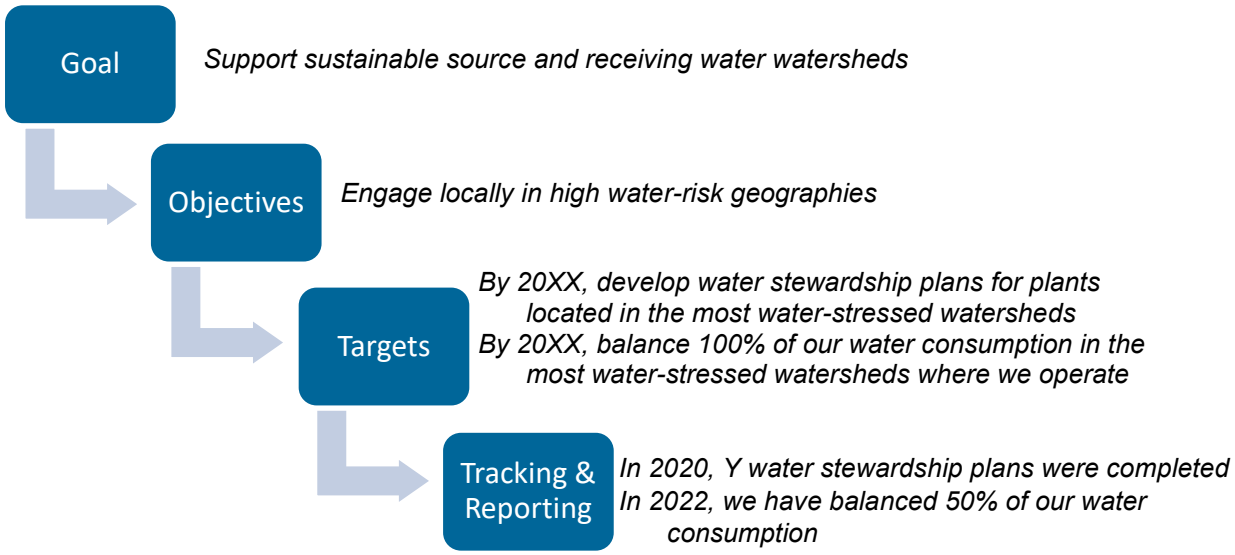


Figure 3-5
Example of watershed goal and associated performance targets

Considerations in setting targets related to watershed engagement:

- How a company can support ongoing public sector or NGO initiatives.
- Begin by researching active stakeholders and ongoing initiatives.
- Actions may include small investments of time (e.g., serve on a committee), public education campaigns, investments in research or projects in the local community/watershed.
- Examples of "balance" projects include restoring water to a stream, restoring a wetland, and supporting crop conversion or other measures to reduce water use in agriculture.
- Balance targets may be linked to natural resource stewardship investments involving community partnerships.

Education and Community Engagement Goals

Electric power companies are well-positioned to help raise awareness of water issues in the local communities where they operate. Examples include educational materials included with billings, support for research and teaching materials, and community events (SRP, 2017; AEP 2018). A water goal related to these activities may be established, and performance targets may (for example) include number of people reached, dollars expended, or number of products sold.

Supply Chain Water Goals

Many electric power generators consider supply chain water use to be minor compared to operational water use, but fuel extraction and processing may impact water quantity and/or quality that may lead to disruption of supply. Companies may set supply chain goals to encourage best practice in extraction and processing.

Supply chain water goals may take the form of the risk assessment goal described above and be directed at gaining an improved understanding of water-related risks in the supply chain. A company may also choose to incentivize a supplier to adopt improved water practices by purchasing fuel that has been extracted and processed using sustainable practices. For example, in 2018, New Jersey Natural Gas purchased a premium responsible natural gas product certified by Independent Energy Standards Corporation TrustWell™ from Southwestern Energy Company (SWN). (GlobeNewWire, 2018)

An example of such a goal is provided in Figure 3-6.

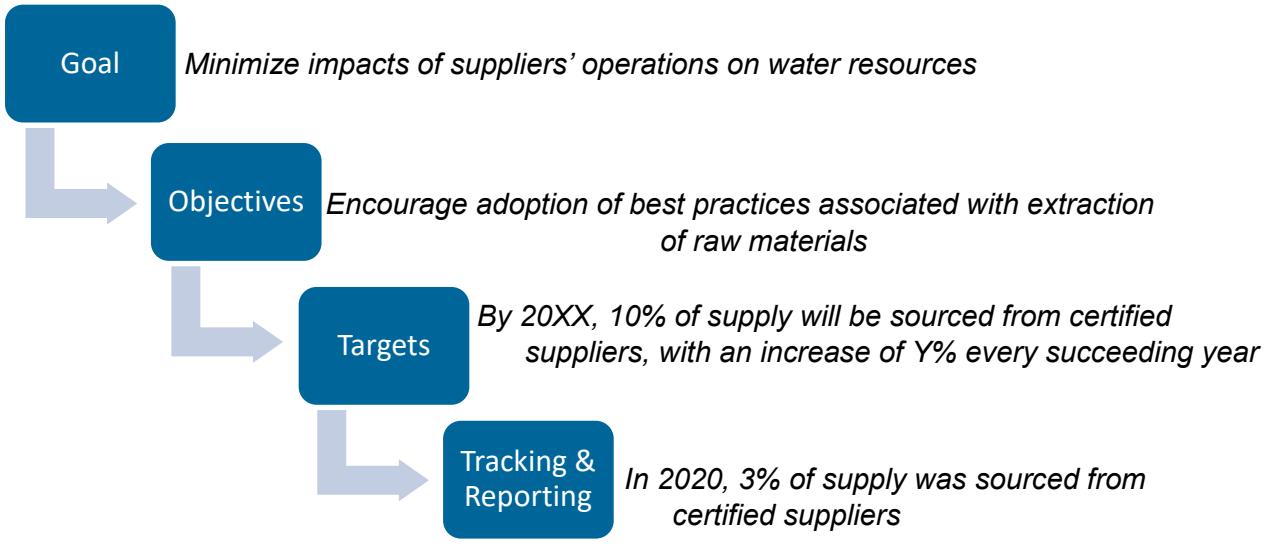


Figure 3-6
Example supply chain goal with target and metric for reporting

Considerations in setting supply chain goals:

- Direct engagement with fuel producers can uncover hidden water risk and help determine the level of risk to shareholders
- A premium may be added to the cost of fuel produced more sustainably

4
PROCESS FOR ESTABLISHING WATER GOALS

The following steps describe a broad process for establishing water goals and quantitative targets that are consistent with current best practice.

Step 1: Understand water flows across the enterprise

Measure to manage: An important first step in setting water goals is to gain a complete understanding of where the company touches water and how much water is withdrawn, consumed and discharged. An understanding of the water quality of influent and effluent flows is also essential.

Step 2: Understand impacts and risks of water use throughout the value chain

Location matters: Water goals should be established in the context of a company's impacts on source and receiving water resources, and the associated risks. These impacts and risks may be present in source watersheds, waterbodies receiving discharge waters, and in watersheds impacted by the operations of suppliers. This step will help inform whether it is most appropriate to target the subset of plants located in water stressed regions or set targets that affect all plants.

Step 3: Develop draft time-bound goals with context-based performance targets

The impacts and risks identified under Step 2 can inform the development of draft internally-focused operational and externally-oriented goals and targets. The performance targets should reflect available resources and level of ambition in the company and be informed by the best available science on hydro-ecological conditions at the basin level (EPRI, 2012). Water management metrics to track performance could be effective (EPRI, 2015). Externally-oriented goals and targets could be established with local stakeholder groups in the context of sustainable basin thresholds and be aligned with public policy objectives.

Step 4: Run goal scenarios to assess feasibility of achieving goal by target timeline, considering operational and financial feasibility

Goal scenarios may be used to evaluate the feasibility of achieving the draft water goals by the target year. For water efficiency and wastewater goals, consider consulting engineering staff to assess the feasibility of upgrades. For a balance goal, an assessment of the feasibility of meeting balance targets could consider available financial resources.

Step 5: Finalize goals and targets

The goal scenario exercise can help inform any final adjustments to draft goals, and then the goals can be reviewed by senior management. If desired, final goals and targets can be shared publically via websites, press releases and other media outlets.

Step 6: Develop glide path for implementation

Specific annual targets may be established to guide planning and investments. Targets may be set by plant or by operating region, as shown in the illustrative glide path in Figure 4-1.

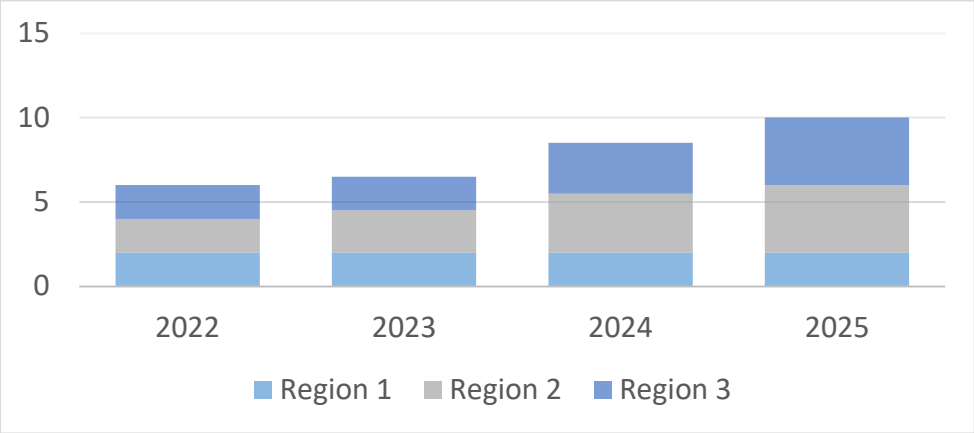


Figure 4-1
Example glide path toward target. The figure is illustrative, and the bars may reflect individual plants, practices or regions.

Step 7. Implement and report on progress

Annual reporting provides transparency on progress toward targets. Where relevant, site-level goals integrated into overarching corporate goals may be effective. Tracking progress over time and reporting at the corporate and site level may be effective. Suggestions related to communications are provided in the following section.

5
COMMUNICATIONS

Regular and transparent communication builds credibility and trust with key stakeholders, including communities affected by a company's operations, customers, employees, investors, local NGOs and local public agencies (CEO Water Mandate, undated). Consistent terminology across all reporting platforms is advisable to ensure clarity in communications (see glossary). When faced with challenges related to meeting water targets, transparent communications about the efforts to address them will go a long way in building trust and fostering dialogue with stakeholders.

Potential outlets for communication related to water goals include various internal and external communication mechanisms, described below.

Voluntary reporting platforms

CDP Water and GRI request information related to water goals and targets. Endorsers of the CEO Water Mandate submit annual Communication on Progress reports that may include descriptions of water goals and targets. These and other public-facing communication mechanisms provide an opportunity to communicate the basis for water goals set by a company as well as annual progress toward targets.

Corporate sustainability reports

Water goals and annual progress toward targets can be clearly reported in a company's annual sustainability report and in related narratives on a company's website. Interesting stories about specific initiatives and projects can go a long way in illustrating how a company is meeting its targets.

Industry-specific benchmarking and reporting templates

Since 2014, EPRI has led a sustainability metric and benchmarking program to help utilities identify and understand metrics appropriate for benchmarking sustainability performance (EPRI, 2018c). Fourteen of the 98 metrics defined for 2018 focus on water sustainability.

In 2018, Edison Electric Institute (EEI) released a voluntary environmental, social, governance, and sustainability-related (ESG/Sustainability) reporting template to help electric utilities provide the financial sector with more uniform and consistent data and information (EEI, 2018). The template includes a section focused on water and to-date 29 EEI member companies have completed the template and shared data publically[1].

[1] http://www.eei.org/issuesandpolicy/finance/Pages/ESG-Sustainability.aspx

Community forums and customer communications

Local community events provide an opportunity to showcase water projects and engage with customers and interested stakeholders (SRP, 2017; AEP, 2018). Brief communications such as newsletters and press releases can help keep customers informed about actions a company is taking related to water stewardship.

Internal employee memos

Sustainability practices can motivate worker productivity and help with employee retention. Employee communications may include emails and memos with information on progress toward targets and opportunities for employee engagement in local restoration projects

6
CHALLENGES

Before embarking on establishing corporate water stewardship goals, an electric utility might consider potential challenges related to both justifying the business case and implementing the goals.

Justifying the business case

Water-related risk may not be directly apparent throughout an organization. There may be a need to clearly explain to upper management the potential for reputational risk or financial risk associated with the full cost of water (i.e., costs beyond just permitting or pumping fees). Many electric utilities may lack motivation to set an onsite water efficiency goal because of already strong water management. Water withdrawal and consumption are highly influenced by cooling water systems that are intrinsic to plant design and are typically cost-prohibitive or infeasible to modify. In this case, goals that focus on the use of degraded water, or incentivize watershed-based activities (e.g., water balance goals) may be more appropriate.

As compared to food and beverage or other consumer-facing sectors, reputational risk drivers may be less apparent. However, proactive efforts to commit to water stewardship goals and activities may help build a strong reputation that can have widespread benefits. Drivers linked to shareholder or stakeholder interests in water stewardship activities may be stronger for publically-traded companies as compared to non-publically traded companies.

Implementing goals

There may be implementation challenges to consider after water goals are established. Water often competes with other environmental issues (e.g., GHG emissions), resulting in time and resource barriers to ensuring a corporate commitment of resource investments and progress towards goals. Water stewardship goals are voluntary in nature, and without regulatory drivers there may not be cost recovery mechanisms to fund actions. Limited water-related data in the plant or watershed may make it difficult to gain an understanding of shared water challenges and develop an appropriate focus for goals. Stakeholder engagement and clear, defensible communications will require unique skills and adequate resources.

7
VALUE STATEMENT

Water stewardship goals can be one component of a company's broader sustainability strategy. Well-defined and achievable water stewardship goals can be an effective tool for an electric power utility aiming to respond to water risks proactively and systematically across their fleet. Many companies are already excelling at internal water management driven by operations experts as well as natural resource stewardship investments championed by sustainability leaders. Establishing water stewardship goals can bring these activities into one framework and incentivize further investments. Aggressive goal setting and strong leadership commitments could strengthen the connection between operations and sustainability branches of a company, support quantification and justification of claims, and encourage a company to strive for progress beyond current activities. Water goals can catalyze action by shifting company culture around water and support assessment of positive impacts from collective action with watershed partners. When constructed as context-based, time-bound ambitions with quantitative targets, water goals can be an effective tool to help ensure that a company will continue to operate successfully and grow sustainably.

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9
GLOSSARY

Goal: Aim to achieve a longer-term qualitative outcome or a specific change in behavior or circumstances (CDP, 2017).

Local water context: The social, economic, and environmental conditions of a surface or groundwater basin (AWS, 2018).

Metric: A system or standard of measurement. Water metrics are numerical or narrative in nature, and designed to address measurement, management, engagement or disclosure requests (EPRI, 2015).

Objective: Primary reason for setting a specific water target in support of a water goal.

Shared Water Challenge: The water-related issues that are of interest or concern to both the site and to other stakeholders in the catchment and which, if addressed, will provide positive impacts or prevent negative impacts. Shared water challenges are not necessarily unique and may be the same for multiple sites or stakeholders (AWS, 2018).

Target: Specific measurable output within a clear timeline (CDP, 2017)

Water Balance Target: A volume of water consumed by a company is "balanced" through interventions in watersheds and communities outside the plant walls (Bass and Larson, 2016).

Water Risk: The effect of water-related uncertainty on an organization's objectives (AWS, 2018). The possibility of an entity experiencing a water-related challenge (e.g., water scarcity, water stress, flooding, infrastructure decay, drought) (CEO Water Mandate, 2018c)

Water Scarcity: The volumetric abundance, or lack thereof, of freshwater resources. Scarcity" is human-driven; it is a function of the volume of human water consumption relative to the volume of water resources in a given area. (CEO Water Mandate, 2018c)

Water Stewardship: The use of fresh water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site- and catchment-based actions (AWS, 2018)

Water Stress: The ability, or lack thereof, to meet human and ecological demand for fresh water. Compared to scarcity, "water stress" is a more inclusive and broader concept (CEO Water Mandate, 2018c)

A
TRENDS IN WATER STEWARDSHIP BEST PRACTICE

The principles of water stewardship have evolved considerably over the past decade, and numerous organizations, initiatives and tools were developed during this time. Appendix A provides brief insights from the international context, specifically some key takeaways from World Water Week[2] in Stockholm in August 2018. World Water Week is a large global conference where leading international corporations and prominent NGOs convene on timely water stewardship topics. These key takeaways are reflected in the initiatives summarized below and they align with important considerations when setting and implementing water stewardship goals:

- Target where it matters: Identify priority locations across the value chain based on risks and impacts;
- Include a financial component in risk assessment;
- Engage local stakeholders to understand shared water challenges at local level;
- Set context-based targets informed by the best available science that directly link to shared water challenges and site risks;
- Support public sector objectives and engage in collective action; and
- Create accountability measures to demonstrate progress toward goals.

[2] http://www.worldwaterweek.org/

B
FOUR WATER STEWARDSHIP PLATFORMS

This appendix summarizes four water stewardship platforms that are considered most relevant to large corporations engaged in water stewardship and establishing water goals. There is broad consistency in messaging across these platforms, which is not surprising as they involve many of the same non-governmental organizations active in corporate water stewardship: AWS, CDP, CEO Water Mandate, Pacific Institute, The Nature Conservancy (TNC) and WWF.

CEO Water Mandate

This public-private initiative is a UN Global Compact initiative that "mobilizes business leaders on water, sanitation, and the Sustainable Development Goals." Endorsers of the Mandate commit to continuous progress against six core elements of water stewardship and in so doing understand and manage their own water risks. The six core elements relate to direct operations, supply chain and watershed management, collective action, public policy, community engagement, and transparency. The Pacific Institute serves as part of the CEO Water Mandate Secretariat and as the "operational arm" of the initiative. Resources are publically available on topics ranging from the business case for water stewardship to assessing risks and collective action. The annual meeting takes place at World Water Week in Stockholm.

For more information see: https://ceowatermandate.org

Context-Based Water Targets

This ongoing initiative is being led by a multi-stakeholder collaboration that was founded on the premise that "individual corporate goals can lack context and not mitigate risk, which is shared, created & controlled externally." The contributing organizations are focused on developing a "consistent approach to assess the context of the basin as a foundation for developing metrics, targets and actions." The draft report states that context-based water targets "respond to shared water challenges and ensure that scientifically-quantified water thresholds within a basin are respected." This is a work in progress and discussions in Stockholm reflected that there are many issues still to be resolved.

For more information see:
https://ceowatermandate.org/resources/context-based-water-targets-2017/

Sustainable Development Goals (SDGs)

The seventeen SDGs of the 2030 Agenda for Sustainable Development were adopted by world leaders at a UN Summit in 2015. SDG6 addresses water challenges that create business risk, such as water scarcity and pollution. Water stewardship inherently advances SDG6 and offers common language for collective action. The CEO Water Mandate and CDP are gathering data from corporations to measure progress toward SDG6.

For more information see:
https://www.un.org/sustainabledevelopment/sustainable-development-goals/

Alliance for Water Stewardship (AWS) Standard

The AWS Standard is an internationally-recognized framework and certification program for organizations to demonstrate a commitment to water stewardship. Companies implementing the AWS Standard develop a water stewardship plan that can link to broader water goals and targets. An understanding of shared water challenges is gained by examining the overlap between site water risk and water-related challenges identified by local stakeholders. AWS offers an option for third-party verification and certification.

For more information see: http://a4ws.org/

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