SUPPLIERS PARTNERSHIP FOR THE ENVIRONMENT

Water Stewardship Strategy Framework

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Water Stewardship Strategy Framework

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THE WATER COUNCIL

I. Automotive Sector Water Stewardship Policy

The automotive sector runs on water. At every stage of the value chain, water is both an operational input and an asset that conveys value to companies in the sector and the communities in which they operate. Far too often, water is a resource taken for granted: undervalued and overlooked until there's a supply disruption. As the impacts of climate change accelerate, water resources that the sector relies on will suffer from shortages, poor quality or too much water in the wrong places. It is estimated that anywhere from 13,000-40,000 gallons[i] of water are required to produce one average-sized passenger vehicle (i.e., the "water footprint" which accounts for uses in the supply base). As the transition to electric vehicles progresses, the water footprint and impact to surface water and groundwater bodies will increase dramatically. As a result, the Suppliers Partnership for the Environment (SP) has developed this Water Stewardship Strategy Framework and commits to working collaboratively with its members to engage companies in the automotive value chain in aligning with and implementing this framework. Our guiding policy on water follows:

> We recognize that many of our most important water resources globally are stressed. We recognize that water is essential for people and nature, but also essential for our products and the associated value chain. As climate change continues to impact availability of and access to water resources, we are committed to pursuing water stewardship excellence across the automotive sector. We will endeavor to engage with our stakeholders on shared water-related challenges and opportunities as well as seek collaborative action projects with each other in watersheds of common operation or sourcing. As a sector, we further commit to the following:
>
> - Improving our assessment and understanding of how water is material to the value chain and the risks associated with how water is used and local watersheds impacted through our operations;
>
> - Developing meaningful metrics and targets that guide action across the sector while taking into account how water (potable and non-potable) is material to key value chain stakeholder groups;
>
> - Building a culture of continuous improvement as water stresses and their attendant risks change periodically;
>
> - Balancing our impact on water resources by prioritizing actions that will achieve the most meaningful water stewardship outcomes in the watersheds in which we operate;
>
> - Engaging stakeholders and each other in meaningful collaborative actions that improve the healthy status of important water-related areas; and
>
> - Communicating transparently the water-related outcomes that result from implementation of our water stewardship ambitions.

II. Applying Water Stewardship Within the Automotive Value Chain

A. Applying Water Stewardship

The Alliance for Water Stewardship (AWS) defines "water stewardship" as the use of water that is socially equitable, environmentally sustainable and economically beneficial. This is generally achieved through a stakeholder-inclusive process that involves site- and watershed-based actions. Traditionally, as a concept, water stewardship has been applied at the site (or facility) level. There is less consensus about what constitutes "good" enterprise-wide water stewardship, let alone good sectoral water stewardship. This is a leadership opportunity for SP to help define "good" sectoral water stewardship.

Traditionally, "water management" has focused on direct cost reduction (or avoidance) through efficiency and regulatory compliance. While these are important aspects for stewarding water resources at a site, this focus may ignore risks and value-creation opportunities that exist outside the fence line of a given facility. Water stewardship is a more holistic approach to not only identifying and mitigating water-related risks that affect operations inside the fence line, but also addressing shared water-related challenges and opportunities outside the fence line. These concepts can be expanded across an enterprise with many sites under operational control or even applied to an organization's value chain. It stands to reason then that through proactive, collaborative actions and commitments, industry sectors can model and apply water stewardship.

Only recently have water-related NGOs and other thought leaders sought to more formally define corporate or enterprise-wide water stewardship. The Water Council (TWC) administers the world's only verification program that seeks to define and recognize "good" enterprise-wide water stewardship through *WAVE: Water Stewardship Verified*. The WAVE program is a methodology for organizations to strategize, prioritize and take meaningful action on water stewardship across the enterprise and within their value chain. Organizations that complete WAVE will:

- Understand their water uses, impacts and risks;
- Develop the necessary data and information on which to craft a water strategy;
- Prioritize sites for projects or identify actions that mitigate the highest priority risks across the value chain;
- Create and approve a water stewardship statement (policy or commitment); and
- Communicate actions, plans, goals and timelines for addressing water risks.

When applied to many organizations across a sector, like the automotive sector, WAVE concepts can help define the actions and ambitions for each company therein. Building on the key concepts of "water stewardship" then, this sectoral water strategy framework demonstrates SP's leadership while guiding companies toward collective action as each seeks to identify and mitigate water-related risks and address key challenges and opportunities shared across the sector. Collectively, companies implementing the framework will:

- *Use water in a more sustainable manner*. That means working toward optimizing water use inside the facility, moving beyond regulatory compliance and looking for opportunities to address shared water-related challenges of all types from scarcity to poor water quality.

- *Increase stakeholder engagement*. Proactively engaging key water-related stakeholders helps sites broaden their consideration of risks and actions as they relate to local water resources and associated challenges and opportunities. Stakeholder engagement can provide valuable intelligence about water-related risks that exist outside the fence line but can have impacts on site operations. It can also build credibility for the site.
- *Align actions inside the facility with conditions in the surrounding watershed and seek opportunities for collaboration*. For example, if a site is located in a water-scarce region, then plans to increase water consumption year-over-year would expose its operations to unnecessary risk. In the same regard, a facility in a region with water quality challenges from runoff might consider opportunities to better mitigate and manage stormwater on-site. Addressing stormwater challenges with others in the immediate area helps defray costs and multiplies the impact.

B. Value Proposition

The value proposition to an individual organization from achieving measurable water stewardship outcomes differs depending on how material water is and what the drivers for action are. Experience from case studies and other water-intensive sectors reveals that the value proposition for the automotive sector falls into one or more of these categories:

- **Enhanced Brand Value** – "Brands with purpose" are gaining in the marketplace as younger consumers in particular want to buy and be associated with goods that stake a position on environmental issues. Water is no different in that consumers and stakeholders increasingly want transparency about how companies use water and how their operations, in turn, impact surrounding watersheds.
- **Expanded Risk Radar** – Embracing a holistic water stewardship approach to addressing water challenges and opportunities inside and outside the fence line leads to an expanded risk radar. As companies expand beyond water scarcity and the direct cost to procure water, cost savings, cost avoidance and other opportunities for improvement emerge (e.g., water quality improvement, stormwater management and beyond regulatory performance, to name a few).
- **Cost Savings and Cost Avoidance** – When the total cost of water is taken into consideration, opportunities for cost savings and avoidance grow. Bottom-line improvements result from reducing pre- and post-treatment costs, energy-related costs (boilers, cooling), water-related compliance costs (and penalties), and maintenance costs on pumps, valves and wells.
- **Resilient Operations and Supply Chain** – Supply disruptions due to flooded facilities, lack of sufficient water for navigation, physical risks that temporarily halt operations and mandated conservation measures are increasingly common. Water stewardship can help the sector "future proof" against water-related climate impacts to direct operations and supply chains.
- **Enhance Social License to Operate and Grow** – As brand value and reputation is enhanced through transparent and credible water stewardship actions, increased stakeholder trust leads to support for continued operations and even growth. If your key stakeholders know your water stewardship plans and see the outcomes of your actions in local watersheds, that translates into enhanced support for your social license to operation and grow.

C. Drivers for Action

The drivers for action will generally align to how water is material to each of the key stakeholder groups within the sector and how their operations generally use and impact water resources (see Materiality section below). That being said, trends across the automotive sector and other water intensive sectors point to the following factors as key drivers for addressing shared water-related challenges and opportunities:

- **Cost Considerations** – Water costs are increasing across the U.S. for procuring water, treating water and managing stormwater. Indirect costs related to heating, cooling and cleaning when coupled with direct costs can represent a significant annual expenditure especially when multiplied across a large enterprise with many sites.
- **Regulatory Uncertainty** – Increasing drought frequency, more pressure to control non-point source pollution and stressed groundwater supplies are forcing lawmakers and regulators to assess and add to the suite of federal and state-level water laws and policies. Businesses need to monitor tightening controls on withdrawing groundwater, mandated conservation measures and new charges and permits for controlling stormwater and agricultural runoff, especially on a state-by-state basis.
- **Physical Risk** – A range of physical risks impacts operations from flooding to not enough water to poor water quality. Whether these issues disrupt operations or indirectly increase operating costs (higher insurance premiums, higher permit fees), water-related physical risks are being felt across industrial sectors.
- **Customer and Investor Pressures** – Stakeholders are increasingly concerned about water resources; specifically what companies are doing to address their own uses and impacts, but also how they are addressing challenges in the watershed. As a result, customers and investors expect transparent and credible action on water stewardship reported externally, whether through ESG (Environmental, Social and Governance) frameworks or company-specific materials (like a sustainability report).

III. Water Materiality & the Key Stakeholder Groups

While the Automotive Sector Water Stewardship Policy serves as a general acknowledgement of the importance of water and achieving water stewardship outcomes to the sector, each stakeholder group's cascaded commitment statement will add specificity by:

- Reflecting water's materiality at that position in the value chain and the unique attributes each stakeholder group has to address shared water challenges and opportunities; and
- Identifying specific water stewardship actions that act as aspirational targets of each stakeholder group.

A. OEMs (Original Equipment Manufacturers)

Original Equipment Manufacturers (OEMs) are responsible for the design and release of final car products. The most water intensive steps included in OEM operations are painting and the final rain test. Additionally, HVAC systems, including cooling towers and chillers require large amounts of water[ii].

- Major automobile OEM sites in Mexico operate within watersheds obtaining water from the Rio Lerma, Rio Verde and the Northwest Coast, all categorized as having a high or extremely high-water risk by the World Resources Institute's Water Risk Atlas.[iii]
- Cataphoresis, or the process of submerging a car and subjecting it to electrical tension to attract paint particles and create a corrosion protection layer, is followed by a series of washes to remove residues; together these steps can require up to 15,000 gallons of water.
- As paint is applied to the surface of an automobile, a pool of water collects excess paint. Later chemicals will be separated from the water as it is prepared for reuse.
- A rain test is performed to ensure the waterproof interior and weatherproof exterior. Up to 700 gallons of water are used for the average vehicle, which can be recycled and used for subsequent tests.
- HVAC systems account for up to 48% of building water use for heating and cooling as well as maintaining safe indoor air quality (AIQ). HVAC system optimization has the potential of saving hundreds of thousands of gallons of water a year along with reducing energy costs.

OEM Water Stewardship Commitment: Water is used in different ways all throughout OEM operations but those that are identified as being most water intensive are the processes of applying paint and protective coatings, the proof of rain test, and HVAC use at facilities (including cooling towers and chillers). As climate change increasingly places stress on availability of water resources for corporations and our stakeholders, there is an opportunity for global OEMs to expand their commitment to pursuing water stewardship excellence within their operations as well as their value chains.

- Many OEMs are located in water-stressed regions, making watershed risk assessments important tools to help expand the organization's risk radar. Ideally, these types of assessments lead to site-specific actions that mitigate risks. As a possible first step toward this commitment, watershed risk assessments could be performed at key sites to identify challenges and opportunities. Further, opportunities exist to engage suppliers in assessing water risk within the supply chain.

B. Materials Suppliers

Materials suppliers produce raw materials that are necessary for automobile components production. The main materials used for car manufacturing are steel, plastics, aluminum and rubber. Additionally, EV battery production requires rare earth minerals and metals mining and refinement, which uses an immense amount of water.

- Cooling and cleaning are the most water intensive parts of steel production, using up to 40,000 gallons of water per ton of finished steel[iv].

- On average 0.66 gallons of water are required to produce a pound of alumina, but process variations can utilize as little as 1.24 or as much as 36.33 gallons[v].
- Plastic production, on average, requires 22 gallons per pound of production[vi] mainly through the drilling, refinement, and production of oil and natural gas as well as machinery cooling.
- Synthetic rubber production requires water mainly in oil and coal extraction and refinement and the cooling required for subsequent steps[vii].
- EV batteries require lithium along with aluminum, copper, iron, etc. The average EV battery contains about 8 kg of lithium[viii], which requires 24,000 gallons of water[ix] to produce.

Materials Suppliers Water Stewardship Commitment: A wide variety of materials are used in the production of automobiles but the most common include rubber, steel, plastic, aluminum, and lithium. Each material requires water for several processes such as mining and extraction of lithium, cooling and cleaning of steel, or oil refinement for plastic production. As climate change increasingly places stress on availability of water resources for corporations and our stakeholders, there is an opportunity to proactively engage material suppliers around their water-related impacts and commitment to pursuing water stewardship excellence.

- Because of the many water-related processes in the materials supply chain, water use assessments will help identify those whose production is most water intensive and gain a better understanding of how water is used in each production process. As a first step toward this commitment, enterprise-wide assessments of how water is used, procured and discharged could be conducted and findings disclosed through SP publications contributing to the overall body of knowledge on water use in the automotive sector.

C. Component Suppliers

Component suppliers utilize materials to produce components necessary for car manufacturing such as engines, batteries and transmissions. The scope of these operations is far reaching, but the common water intensive processes shared among them include cooling and metal finishing.

- The main use of water or liquid cooling in component manufacturing is for cooling materials and equipment throughout the production process. Cooling towers circulate cooling water and dissipate heated water so that the water can be used again.[x]
- Metal finishing requires water to clean and polish the part as well as for plating. There are a wide range of plating processes that can be used, the most popular of which include the use of a liquid solution.[xi]
- Wastewater resulting from components manufacturing can contain metals, oils, grease and harmful chemicals from paint residue.
- HVAC systems account for up to 48%[xii] of building water use for heating and cooling as well as maintaining safe indoor air quality (AIQ) which includes cooling towers and chillers. HVAC system optimization has the potential of saving hundreds of thousands of gallons of water a year along with reducing energy costs.
- Many parts are shipped painted such as interior components, bumpers/trim, and aluminum wheels. The related paint processes are water intensive.

- Most North American automobile component suppliers are located in the region known as "auto alley" stretching from southern Ontario, Canada through the US Great Lakes region down to the Gulf of Mexico. Suppliers' locations in Mexico operate in watersheds with basins including the Rio Grande, Baja California, and the Mexico Northwest Coast, all categorized as facing high or extremely high-water risk.[xiii]

Component Suppliers Water Stewardship Commitment: Water is used throughout component suppliers' operations in a wide variety of ways, but the most water intensive processes include metal finishing, paint applications, equipment cooling and other HVAC operations at our facilities. Due to the nature of our operations, wastewater containing oils, grease and other contaminants is produced. As climate change increasingly stresses availability of water resources for corporations and our stakeholders, there is an opportunity to proactively engage component suppliers around their water-related impacts and commitment to pursuing water stewardship excellence.

- Due to the wide variety of components, operational water assessments will help identify the most water intensive uses and impacts leading to a better understanding of how water resources are impacted across this stakeholder group. As a first step toward this commitment, enterprise-wide assessments of how water is used, procured and discharged could be conducted and findings disclosed through SP publications contributing to the overall body of knowledge on water use in the automotive sector.

D. Dealers

There are approximately 17,000 new car dealers in the U.S.[xiv] The main uses of water at a dealership are car washes, landscape maintenance and indoor client facilities. Additionally, the water used in maintenance services such as oil changes and brake replacements should be considered in their impact. Due to the large impervious surface areas of dealer lots, stormwater management and runoff are also an important consideration and potentially a regulated activity.

- Most dealership water use occurs from domestic uses (restrooms, etc), lawncare and irrigation.
- The average car sits at a dealership up to several months before it is sold and is washed once a week.[xv] A car wash uses about 15-85 gallons of water[xvi]; most car washes use reclaimed water for the initial rinse.[xvii]

Dealers Water Stewardship Commitment: Within dealer operations, water is mainly used for the upkeep and cleaning of automobiles on lots, irrigation, and domestic purposes including restrooms and other fixtures. Managing and mitigating stormwater on site is also an important consideration. As climate change increasingly stresses availability of water resources for corporations and our stakeholders, there is an opportunity to proactively engage dealers around their water-related impacts and commitment to pursuing water stewardship excellence.

- Quantifying dealer water use through accurate metering and determining opportunities for recycling water would potentially lead to noticeable cost savings. As a first step toward this commitment, enterprise-wide assessments of how water is used, procured and discharged

(including runoff) could be conducted. Using this information, dealers could identify cost savings opportunities within processes like irrigation where water could be recycled.

E. End-of-Life

The end-of-life stage of a car is everything that happens to it and its components once it is deemed no longer useful or safe for its intended function. There are many processes that can occur in this stage due to the variety of components and materials that make up a vehicle. A few processes that utilize water are the washes in the beginning stages of plastic recycling, hydrometallurgy; and, avoiding virgin material extraction in the first place can save water. It is also important to mention that pollution can occur in this stage from poor handling of hazardous materials including runoff from waste disposal sites, emissions from shipments of steel and other products, and chemical pollution caused by landfill fires.

- Improper disposal and export to foreign countries are the primary risks, and both tend to impact water quality through infiltration and/or runoff of surrounding ground and surface water.[xviii]
- Hydrometallurgy is a common method used for lithium-ion battery recycling in which an aqueous solution aids in the separation and extraction of metals including lithium and copper.[xix] The subsequent reuse of a material such as lithium prevents the water use required for virgin material extraction. Hydrometallurgy can produce wastewater that includes heavy metals and must be treated before release.[xx]
- The recycling process of plastic car components begins with a wash to remove substances or residues; depending on the condition of the part it may require the use of a cleaning agent.[xxi] The condition of the part, type of plastic and use of a cleaning agent will determine the level of wastewater treatment necessary.
- When a car is scrapped, oils and other substances must be removed and properly disposed. Oil can be recycled through a process of filtration and treatment giving it a second life and avoiding the water usage required for virgin oil extraction and refinement.[xxii]

End-of-Life Water Stewardship Commitment: A wide range of processes are involved in the end-of-life stages of an automobile. Some of the most water intensive of these processes include the cleansing washes in the beginning stages of plastic recycling, hydrometallurgy (a method of recycling metals contained in EV batteries using an aqueous solution), and the potential contamination of local waterways due to improper disposal or lack of safety measures. As climate change increasingly stresses availability of water resources for corporations and our stakeholders, there is an opportunity to proactively engage companies in the End-of-Life stages around their water-related impacts and commitment to pursuing water stewardship excellence.

- There is a need for a better understanding of the range of ways end-of-life processes rely on water and impact watersheds. As a first step in this commitment, enterprise-wide assessments of how water is used, procured and discharged could be conducted with a focus on the quality of water discharges (and runoff) and ways in which contaminants can be prevented from entering local water sources.

IV. Next Steps

A. Sector Ambition

It is not enough to simply commit to being a better water steward or commit the sector to leadership. Action must follow ambition. Therefore, this strategy framework includes possible actions and targets for companies in the automotive value chain to voluntarily undertake.

Further Action – Suggested actions companies in the automotive value chain could undertake in support of a commitment to water stewardship excellence may include:

- *Survey all sites for water data collected* – Survey sites under direct operational control to ascertain what (if any) type of water-related data is reported (e.g., withdrawal, consumption, discharge). This would help sites better assess gaps in understanding water uses and impacts.
- *Conduct watershed assessments at [all] sites* –Utilize a free online tool (e.g., WRI Aqueduct) to assess watershed risk at those sites under direct operational control.
- *Apply the SP Water Stewardship Action Matrix at key sites* – Apply the Action Matrix at key sites under direct operational control. This would follow the watershed risk assessment and be applied at the sites with the highest levels of water-related risk per the third-party tool utilized.

B. Key Issues to Track

In an effort to stay ahead of the risk curve (whether physical, reputational or regulatory), SP and its members have identified the following issues worthy of deeper consideration and analysis. These issues will help drive improved water stewardship outcomes as well as benefit the sector's competitiveness and the communities and watersheds in which they operate.

- *Identifying co-metrics and co-benefits connecting water use reduction to climate adaptation and carbon reduction* – Identifying such co-metrics and co-benefits would benefit this and practically all sectors. From petrochemical to heavy industrial to automotive, the question of quantifying water reductions or quality improvements to climate adaptation and carbon reduction is starting to gain interest and initial assessment. This is a thought leadership opportunity for the sector.
- *Exploring a comprehensive water-fit-for-use strategy for the sector* – What is the quality of water needed for the various processes throughout the automotive supply chain? Is potable water needed at every stage, or can recycled water meet minimum quality or performance standards needed for paint-related processes, irrigation and car washes (dealer lots, logistics fleet, etc)? How is fit-for-use impacted by local watershed stress (quality vs. quantity) and how might that impact how water is procured, recycled and discharged?
- *Assessing water impacts from the EV transition* – There will be environmental trade-offs during and after the EV transition. These trade-offs will certainly have an impact on local water resources through increased minerals and metals extraction and mining. The sector should be proactive in communicating these trade-offs, especially if the overall water footprint of the sector increases.

V. Attachments

A. Background

TWC has been contracted to work with SP staff, the Water Stewardship Work Group and key members from February through July 2023 to develop a strategic framework to guide water stewardship actions and outcomes in the sector. The strategy framework will address key drivers of improved water stewardship performance within the sector, particularly within the supplier base, but also address drivers relevant to other stakeholder groups within the value chain. By working with SP members to craft a sector strategy, many companies in the value chain will be able to align with this framework and address material issues and risks within their own operations, thus contributing to more sustainable and resilient supply chains and communities.

A Water Stewardship Strategy Framework will be developed through consultation with SP leadership and members. The framework will:

- Create a sector water ambition and strategy around which companies can collectively rally;
- Identify key drivers for action;
- Define why companies in the automotive value chain should address water challenges and opportunities; and
- Chart a path for business value creation for companies.

B. About Suppliers Partnership for the Environment

The Suppliers Partnership for the Environment (SP) provides a forum for global automotive manufacturers and their suppliers to work together toward a shared vision of an automotive industry with positive environmental impact. Through SP, automotive industry leaders are coming together to share best practices and advance action on key environmental sustainability priorities such as carbon neutrality, sustainable materials management and water stewardship. Learn more at: www.supplierspartnership.org

C. About The Water Council

The Water Council is a global hub dedicated to solving critical water challenges by driving innovation in freshwater technology and advancing water stewardship. Built on more than a century of innovation, The Water Council has coalesced one of the most concentrated and mature water technology clusters in the world from its headquarters at the Global Water Center in Milwaukee, Wisconsin. Recognizing the need for smarter and more sustainable use of water worldwide, The Water Council also promotes water stewardship as a natural complement to water innovation in the effort to preserve freshwater resources in the Midwest and around the world. Today, The Water Council has established itself as a global leader in the water industry and one of America's premier economic development clusters as recognized by government agencies, Brookings and the Harvard Business School.

D. Glossary

Alliance for Water Stewardship: The Alliance for Water Stewardship (AWS) is a global membership collaboration of businesses, NGOs and the public sector. Its members contribute to the sustainability of

local water resources through their adoption and promotion of a universal framework for the sustainable use of water – the International Water Stewardship Standard, or AWS Standard.

Aspects List: Any part of your company's activities that can interact with the environment, either positively or negatively. This could be chemicals that are emitted into the air from a vent during one of your processes or chemicals that are expelled in your wastewater. This could also take into account resources that your processes utilize, or the environmental effect of the amount of waste you dispose of.

Aquifer: Geological unit containing groundwater. It must have sufficient porosity to hold water and sufficient permeability to allow easy flow. Porosity is created by the space between grains of rock and by cracks and fissures. Aquifers occur on many scales, ranging from small and local units to hundreds of square kilometers. Thickness ranges from one meter to hundreds of meters. A water table (or unconfined) aquifer lies just below the ground surface and is vulnerable to pollution. A confined aquifer lies below an impermeable rock layer (such as clay), which helps protect it from surface pollution.

Catchment: The geographical zone in which water is captured, flows through, and eventually discharges at one or more points. The concept includes both surface water catchment and groundwater catchment. A surface water catchment is defined by the area of land from which all precipitation received flows through a sequence of streams and rivers towards a single river mouth, as a tributary to a larger river, or to the sea. A groundwater catchment is defined by geological structure of an aquifer and groundwater flow paths. It is replenished by water that infiltrates from the surface. Depending on local conditions, surface and groundwater catchments may be physically separate or interconnected. Alternative terms are watershed, basin and river basin.

CEO Water Mandate: The CEO Water Mandate is a special initiative of the UN Secretary-General and the UN Global Compact, implemented in partnership with the Pacific Institute. The CEO Water Mandate mobilizes a critical mass of business leaders to address global water challenges through corporate water stewardship, in partnership with the United Nations, governments, civil society organizations and other stakeholders. The Mandate is a commitment platform for business leaders and learners to advance water stewardship. Endorsing companies commit to action across six key elements and report annually on progress.

CDP: CDP, formerly the Carbon Disclosure Project, is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts including a comprehensive water reporting platform. The world's economy looks to CDP as the gold standard of environmental reporting with the richest and most comprehensive dataset on corporate and city action.

Contextual Water Target: Targets informed by the surrounding catchment (watershed) context that help focus resources toward the right water-related challenges in the right places and are strategically relevant to both the target-setting water user and other water users in the catchment (watershed).

Discharge: Water-related discharge from a site, including drainage, wastewater (effluent), used cooling water, and irrigation surplus. The quality of discharged water may range from good to polluted, depending on its origin, use and treatments applied.

Goal (or Target): A specific time-bound objective that sets the desired outcome at site, corporate, basin or other levels. For example, "By 2020, a 20% increase in total water efficiency as compared to 2015," or "By 2020 a 10% decrease in total nitrogen discharges as compared to 2017."

Groundwater: Water below the surface of the Earth stored in porous spaces and fractures within rock or layers of sand and gravel (aquifers). In water resources management the term more specifically applies to water that can be extracted at a viable rate, quantity and quality for human use (with or without treatment). Saline water or water contained in rocks of very low permeability is not conventionally considered groundwater.

Indirect Water Use: Water used in a site's supply chain representing that which is used in the manufacturing and provision of all products and services, excluding water used on site. In effect, it is the sum of "embedded water" of all products and services. Indirect water can also include outsourced services that use water (such as laundering or fleet washing).

Integrated Water Resource Management: "IWRM" is a process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

International Water Stewardship Standard ("AWS Standard"): A globally applicable framework for major water users to understand their water use and impacts, and to work collaboratively and transparently for sustainable water management within a catchment context. The Standard is intended to drive social, environmental and economic benefits at the scale of the catchment.

Metric: Any form of quantitative or qualitative measure used to track progress at a site, whether corporate, basin level or other levels. For example, "water efficiency" or "water withdrawal."

Objective: The desired outcome of a target or goal. For example, "align site water use with catchment water balance."

Science-Based Water Target: A target that supports a company in reducing its impacts on freshwater resources in line with what the latest hydrological science says is necessary to meet the sustainable freshwater quantity and quality thresholds of the basin in which the company and its value chain operate.

Shared Water Challenge: A water-related issue, concern or threat shared by the site and one or more stakeholders within the catchment(s). Examples include physical water scarcity, deteriorating water quality and regulatory restrictions on water allocation.

Shared Water Opportunity: The possibility of an entity experiencing a positive gain resulting from water stewardship efforts (e.g., financial improvement, shareholder approval, improved brand image, etc.).

Site: For the AWS Standard, the site is the physical area over which the implementing organization owns or manages land and carries out its principal activities. In most cases it is a contiguous area of land but may also include physically separated areas and all areas owned or managed by the site (especially if in the same catchment). For a factory, the 'site' is typically represented by the fenced area encompassing all its buildings, parking and storage areas. For farming, the site encompasses its fields, buildings and

storage areas. Where the organization operates its own water sources and/or wastewater plant, these should be considered part of the 'site'. For example, for a bottled water factory that operates a physically separate water source (e.g., spring or borehole), this should be considered part of the "site."

Stakeholder: Any organization, group, or individual that has some interest or "stake" in the implementing organization's activities, and that can affect or be affected by them. The four main categories of stakeholder are: (1) Those who impact on the organization; (2) Those on whom the organization has (or is perceived to have) an impact; (3) Those who have a common interest; (4) Neutral – those with no specific link, but whom it is relevant to inform. Of most relevance to water stewardship are stakeholders associated with water use and dependency, but engagement should not be limited to these.

Total Cost of Water: The total cost of water includes the direct costs to procure, treat and discharge water as well as indirect costs associated with water-related regulatory compliance, fees, fines, emergencies and the maintenance of wells, pumps, valves and other machinery that move water into, through and out of a facility.

WASH: Acronym for Water, Sanitation and Hygiene. It is used in the international development sector to refer to the combined area of effort to address basic human water needs and rights related to access to safe and sufficient water for drinking, food preparation and washing. It also includes the provision of good washing and toilet facilities and the principal of hygiene education to combat the spread of water-related illnesses and disease.

Watershed: Alternate term for catchment. River basin or basin may also be used as alternatives. AWS mainly uses the term catchment, which can slightly differ in meaning from how watershed is used in North America.

Water Balance: The change in water supply at a site level, or at a catchment level, determined by the difference between average intake, precipitation, evapotranspiration and water discharge (typically taken at the main drain of the site or catchment).

Water Consumption: Represents water used by the operation but not returned to its proximate source. It involves evaporated water; transpired water; water that is incorporated into products, crops or waste; water consumed by man or livestock; or water otherwise removed from the local resource. Water that is polluted to an extent prohibiting its use by others wishing access is termed "consumption."

Water Footprint: Measures the amount of water used to produce each of the goods and services we use. It can be measured for a single process, such as growing rice; for a product, such as a pair of jeans; for the fuel we put in our car; or for an entire multi-national company. The water footprint can also tell us how much water is being consumed by a particular country – or globally – in a specific river basin or from an aquifer.

Water Governance: Water governance encompasses all aspects of how water is managed by governments, regulators, suppliers and users. It includes water resources management, protection, allocation, monitoring, quality control, treatment, regulation, policy and distribution. Good water governance ensures responsible sharing of water resources in the interests of users and the natural

environment in line with the principles of water stewardship. Water governance also applies to how water is managed at a given site or within a company.

Water Management: The control and movement of water resources to minimize damage to life and property and to maximize beneficial use.

Water Quality: The quality of a natural water body in terms of physical, chemical and biological parameters. The relevant quality standards are defined by national or local regulation and guidelines. Where these are absent, then international standards and guidelines should be applied. Good water quality status meets the requirements of native flora and fauna and human needs where applicable. The status is not required to be pristine (i.e., contaminant free) or of drinking water quality (which would be classed as high-water quality status).

Water Risk: The possibility of an entity experiencing a water-related challenge (e.g., water scarcity, water stress, flooding, infrastructure decay, drought).

Water Scarcity: The lack of sufficient available water resources to meet the demands of water usage within a region for environmental and human needs. Physical water scarcity is when there is insufficient water in natural water bodies. It may be a natural condition (e.g., in arid regions) or may result from excessive water abstractions for human uses.

Water Source: The physical structure from which a water supply is abstracted from a water body. For groundwater, it may be a natural spring, a borehole or water well. For surface water, it is a "water intake." It can also include the immediate surrounding zone of the main water body, in effect, the zone that feeds the point of abstraction. It may apply to multiple abstraction points where they are associated, for example, a wellfield.

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

Water Stress: The ability or lack thereof to meet human and ecological demand for freshwater; compared to scarcity, "water stress" is a more inclusive and broader concept. Water stress occurs when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use.

Water Use: The total amount of water withdrawn or diverted by an operation to produce products or provide a service. Water use includes the sum of total water consumption, withdrawals and water pollution, regardless of whether the water is returned to the local resource or not.

Water Withdrawal: Freshwater taken from the ground or surface water sources, either permanently or temporarily, and conveyed to a place of use.

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Contact: Please submit any feedback on this document or suggestions for future improvements to SP at info@supplierspartnership.org.

Endnotes

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