THEMATIC CONCEPT PAPERS

DRAFT OUTLINE

(Template)

I. Introduction

This section will introduce the thematic topic in the context of the UN 2023 Water Conference and set the scene for the concept paper.

As part of the organizational arrangements mandated in A/RES/75/212, paragraph 9 (d), the Secretary-General of the UN 2023 Water Conference will prepare concept papers on the themes of the interactive dialogues, finalized during the one-day preparatory meeting for the Conference convened by the President of the United Nations General Assembly on 25 October 2022. This concept paper is on the theme: **The contribution of Inclusive and Sustainable Industrialization (SDG 9) to ensure availability and sustainable management of water and sanitation for all (SDG 6).**

The world is not on track to achieve SDG 6 and related goals and targets by 2030. The COVID-19 pandemic has further increased the challenge, and the world must quadruple the rate of progress to ensure water and sanitation for all by 2030. Water is inextricably linked to the three pillars of sustainable development, and it integrates social, cultural, economic and political values. It is cross-cutting and underpins the achievement of many SDGs through close linkages with climate, energy, cities, the environment, food security, poverty, gender equality, and health, amongst others. With climate change profoundly affecting our economies, societies and environment, water is indeed the biggest deal breaker to achieve the internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development.

II. Overview of the challenge, current status and interlinkages

This section will highlight the current status, trends and the need for progress on the theme. In doing so, it will also highlight interlinkages across the theme, in particular the relationships inherent between the theme and the most relevant SDGs, with emphasis on the most relevant targets.

Globally, approximately 19 percent of total water withdrawals are used for industrial purposes. In contrast to the global distribution for agricultural water withdrawals, industrial water tends to dominate in high-income countries (with an average of 17 percent), and is small in low-income countries (on average 2 percent).

Water is used for a range of industrial applications, including dilution, steam generation, washing, and cooling of manufacturing equipment. Industrial water is also used as cooling water for energy generation in fossil fuel and nuclear power plants (hydropower generation is not included in this category), or as wastewater from certain industrial processes.

In contrast to the global distribution for agricultural water withdrawals, industrial water tends to dominate in high-income countries (around 70 percent in Central and Eastern European Countries) and is small in low-income countries (on average 2 percent).

The eradication of poverty is the ultimate objective of all development agendas. The Lima declaration recognizes industrialization as central to achieving longer-lasting wealth creation and economic advancement, both in developing and in industrialized countries. Water demand for the industry by 2050 is forecasted to increase everywhere around the world, with the possible exceptions of North America and Western Europe. Water demand from industry will increase by 800% in Africa (where present industry use is negligible) and will increase by 250% in Asia. Global water demand for manufacturing will increase by 400%. As the global population grows and the industrial, agricultural, as well as domestic water demand increases, water requirements will exceed the sustainable supply from freshwater resources. Water stress and the risk of water scarcity are now common concerns for many countries on our planet. To achieve a truly sustainable development path, increasing water demand must be decupled from economic growth.

By promoting Inclusive and Sustainable Industrial Development UNIDO contributes to decouple economic growth from the consumption of freshwater and other resources. In order to protect water resources for future generations, UNIDO's policy advisory and technical cooperation services include building capacity in the industrial sector to improve water productivity, reuse and recycling, as well as the adoption of the ecosystem approach and the sustainable use of its living resources at the institutional level. UNIDO's Transfer of Environmentally Sound Technologies (TEST) programme, the Resource Efficient and Cleaner Production (RECP) programme and the Eco-Industrial Parks programme address issues related to the water/food/energy/ecosystem security nexus and help to decouple industrial growth from water demand by reducing resource consumption and industrial effluent discharges.

III. Overview of opportunities for progress and transformative solutions

The existing and future water-related challenges we face require the rapid development and deployment of innovative and transformative solutions that go beyond business-as-usual. The international community must strive for concrete recommendations that can foster progress and transformative solutions. The SDG 6 Global Acceleration Framework aims to deliver fast results at an increased scale. The themes of the interactive dialogues will be addressed through the lens of five cross-cutting and interdependent accelerators namely: Financing, Data and information, Capacity development, Innovation, and Governance.

1. **Financing**

This section will examine how to improve targeting, better utilization of existing resources and mobilization of additional domestic and international funding for delivery and implementation of all SDG 6 targets, bearing in mind the interlinkages with other goals. It may also explore the barriers that preclude finance mobilisation to date and offer action-oriented solutions.

Under the TEST, RECP and EIP projects and programmes UNIDO provides technical assistance to identify investment opportunities in Resource Efficient and Cleaner Production approaches and technologies for industries. If realized such investments result in cost savings for the companies as well as in environmental benefits (reduced water consumption, reduced pollution loads, carbon emission reductions etc.). However, the investment itself has to be made by the company. Unfortunately, even in situations where an Internal Rate of Return (IRR) of 25% and above can be demonstrated, many industries do not have access to the venture capital required for larger scale investments in RECP technologies. An effective decoupling of industrial water consumption from economic growth requires the facilitation of industries' access to green finance instruments or the development of such instruments. Furthermore, linkages to the carbon market and emission trade need to be established so that industries in developing countries can be granted complimentary funding for investments in water saving, resource efficient and cleaner production technologies and approaches. This will be a condition to achieving SDG 6 target 3[1] and target 4[2] by 2030.

2. **Data and information**

This section will discuss how data generation, validation, standardization and information exchange can build trust and support leaders in making informed decisions and increase accountability. It will discuss how to ensure that high-quality information on SDG 6 indicators is shared and can be easily accessible by any decision maker.

The sustainable management of finite water resources requires that the supply matches the demand. For this, governments need to have accurate information on water consumption by all sectors. Industries often abstract water directly themselves from freshwater bodies (aquifers and surface water bodies). In many cases these abstractions are poorly or not regulated at all, and there is lack of reporting by industry. Where regulated, the quantities abstracted can often not be sufficiently monitored by government and actual abstractions often exceed the permitted quantities. This can result in an over –utilization of a finite water resource and ultimately leads to water stress and depletion of ground water bodies. To achieve target 4 by 2030, implementation of integrated water resources management is required at all levels including through transboundary cooperation, and appropriate innovative solutions need to be found to enable government to properly monitor direct abstractions by all users. Frank and honest cooperation by industry in this process is required

[1] Improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

[2] Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

and is in their own long-term interest. Industries need to be made aware that a proper management of finite resources by government is a precondition to guarantee their sustainable and equitable access to water now and in the future. The sustainable management of finite water resources will require the adoption of new property right regimes under which direct abstraction from freshwater bodies or aquifers can no longer be free of charge. This will impose further challenges on industries reporting on their actual water abstractions. Nevertheless, unless such property right regimes will be introduced and direct abstractions by all users is properly regulated, reported and monitored and water properly valued, the sustainable management of finite water resources will not be possible.

3. Capacity development

This section will explore how inclusive human and institutional capacities at all levels can enable improved service levels, operating and maintenance technology, increased job creation in the water sector and the retaining of a skilled work force.

The status of water resources highlights the need for improved management. Recognizing, measuring and expressing water's worth, and incorporating it into decision-making, are fundamental to achieving sustainable and equitable water resources management and the Sustainable Development Goals. The failure to fully value water in all its different uses is considered a root cause, or a symptom, of the political neglect of water and its mismanagement. All too often, the value of water, or its full suite of multiple values, is not prominent in decision-making by public and private sector actors at all. While progress has been made in valuing water, massive efforts need to be made to harmonize the different approaches and methodologies. Awareness of public and private sector decision makers on the value of water needs to be created and the capacities of decision makers to properly value water need to be strengthened. Furthermore, the outcome of the valuations needs to be translated into sustainable management decisions. This will require the identification of benefit streams and beneficiaries and to make sure that any decision on the use of limited water resources will properly reflect the economic value and not only financial costs and benefits.

4. Innovation

This section will discuss how innovative practices and technologies can be leveraged and scaled up to ultimately lead to improved water resources and sanitation development and management at the country level.

Faced with increasing water scarcity, industries have started to perceive their access to water as a serious business risk. The more advanced industries have realized that becoming more efficient water users alone is no longer sufficient to secure their long-term access to water. The mitigation of water risks requires industries to understand the catchment context and their engagement as water stewards. As such, they can drive interaction with other stakeholders to jointly identify and implement collaborative measures outside their premises. Nature Based Infrastructure Solutions have proven in many cases to be a cost effective and efficient way to mitigate water risks and to reduce water scarcity. While the Alliance for

Water Stewardship has developed an International Water Stewardship Standard, massive efforts are required to scale-up pilot projects and to engage more industries in water stewardship activities. Industries need to understand that while they are competitors in the market place, they will have to cooperate on water stewardship approaches in the same catchment area and pro-actively contribute to achieving target 6[3] by 2030 to secure their sustainable access to water.

5. **Governance**

This section will focus on the need for cross-sector and transboundary collaboration, clear roles, stakeholder involvement and effective and inclusive institutions to make SDG 6 everyone's business.

Considering increasing water stress and scarcity in many catchment areas, the management of finite water resources will require the adoption of stakeholder inclusive approaches. Industries will have to become aware of the water situation in the catchment area they are located and the catchment area(s) from which they source their raw materials. While responsibility for decision making on the allocation of finite water resources and coordination of stakeholder engagement processes must remain vested in government, they will have to be open to embrace private sector and civil society organization engagement in decision making and encourage collaborative efforts towards the sustainable management of the water resources in a catchment area. This will require intensive dialogue and trust building measures so that all stakeholders involved fully understand their respective roles, responsibilities, and can bring in their comparative advantages.

IV. Recommendations

This section will outline the main recommendations for the theme, including possible voluntary commitments that would be relevant to address the global water challenges, specifically with respect to the theme of this concept paper. Please build as appropriate on and with reference to the three principles of the Conference:

1. Inclusive (e.g., who are the actors that should work together)
   To achieve a sustainable and inclusive management of finite water resources all stakeholders from government, civil society, academia and private sector operating in a catchment area need to be involved. Given the critical role of finite water resources for sustainable development, government or intergovernmental ecosystem-based entities must have the convening, coordinating and normative role. To ensure that all stakeholders can bring in their knowledge and that various often competing interests can be duly considered, participatory stakeholder inclusive bottom-up planning processes are required. It is of utmost importance that all stakeholders fully understand the status of water resources in the respective catchment area. To ensure their sustainable access to water industries will have to proactively engage as water stewards in collaborative planning

[3] Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

processes and play an active role in water and risk mitigation activities. In this regard, industries with higher CSR standards or higher awareness on the water related business risks and willing to shoulder the transaction costs can play an important catalyzing role in collaborative planning processes (for example HEINEKEN and Danone have demonstrated in their water stewardship activities in Indonesia).

2. Cross sectoral (e.g., what are the sectors that need to be mobilized)
   The sustainable and inclusive management of finite water resources requires a fully cross-sectoral cooperation involving all stakeholders that are impacted by or have an impact on water resources in a catchment area. Unless such cross-sectoral planning and implementation approaches can be fully aligned with the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals to leave no one behind, water cannot be managed in an inclusive and sustainable way. While each sector must be given well balanced importance in an inclusive planning process, the implementation of collaborative joint measures to reduce water stress and mitigate water scarcity require a clear definition of roles, responsibilities, and obligations of each sector.
3. Action oriented (e.g., what needs to be done).
   While on a global level the world is behind in achieving SDG 6, a lot of laudable efforts and pilot activities in the domains of water stewardship and valuing water have been undertaken. Lessons learned from the pilots need to be extracted, methodologies and approaches harmonized, and results scaled-up and used to inform decision making to achieve the transformative change required for inclusive and sustainable management of our finite water resources. Industries must be encouraged to understand the crucial role of water for their business sustainability and the role they have in the management of water resources. They must be encouraged and rewarded to join initiatives such as the Beverage Industry Environmental Roundtable (BIER) to bring together global industry leaders to advance the sectors environmental sustainability and to assure a pro-active engagement of industries in inclusive and sustainable management of the plant's finite water resources.

V. Guiding Questions

This section will present the guiding questions that will shape the discussion during the relevant interactive dialogue at the UN 2023 Water Conference.

How can we ensure that industries understand their role with regards to SDG 6 and that they become active partners in pursuing the SDG 6 targets?

What green finance instruments are accessible to Industry, or what instruments need to be developed to facilitate the decoupling of industrial water consumption from economic growth?

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The world is not on track to achieve SDG 6 and related goals and targets by 2030. The COVID-19 pandemic has further increased the challenge, and the world must quadruple the rate of progress to ensure water and sanitation for all by 2030. Water is inextricably linked to the three pillars of sustainable development, and it integrates social, cultural, economic and political values. It is cross-cutting and underpins the achievement of many SDGs through close linkages with climate, energy, cities, the environment, food security, poverty, gender equality, and health, amongst others. With climate change profoundly affecting our economies, societies and environment, water is indeed the biggest deal breaker to achieve the internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development.

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- UNIDO has been working and directly assisting with pollution control through the design and construction of effluent treatment plants. Some examples and documents pertaining to effluent treatment can be found below:

- https://leatherpanel.org/publications-categories/tannery-effluent-treatment

III. Overview of opportunities for progress and transformative solutions

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- **Pollution control/safe water:** Currently there is a large project – Sialkot Tannery Zone (Leather Industry Park), that UNIDO is assisting with effluent treatment construction and the whole leather industry park planning. The planned commissioning of the effluent treatment plant is the 2nd quarter of 2023 (attached pictures from the progress). There are many more examples that have already been completed and operated.

4. Innovation

This section will discuss how innovative practices and technologies can be leveraged and scaled up to ultimately lead to improved water resources and sanitation development and management at the country level.

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- Resource efficiency (including water) pollution control and safe use (see theme 1) is an integral part of work within value chains and during the planning and implementation phases of industrial parks.
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- there are many learning resources provided by UNIDO, such as:

- https://twitter.com/UNSDGLearn/status/1588105155501002753
- https://www.unsdglearn.org/courses/introduction-to-treatment-of-tannery-effluents/

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