Summary of Side Event

"Engineering solutions for water adaptation":

Thursday 4 May at 8:30 AM EST / 2:30 PM CEST

Background on the event

Climate change and the consumption patterns of today's society have increased the pressure on all natural resources, especially water. Not only have global water demands grown exponentially in recent years, but a very high percentage of wastewater returns to ecosystems without being treated or reused, polluting our rivers, environment and biodiversity.

Droughts and floods are also increasingly perceived by society as the visible face of climate change. Faced with this situation, humanity must adapt to these new scenarios. In this side event we will present different examples of engineering that allow for greater sustainability, circularity and resilience of this resource.

Key Issues discussed

- Introduction to Water Adaptation
- Portugal's river basin management plans: groundwater innovative methodologies, diagnosis, and objectives
- Capacity Building in Water Infrastructure Development and Maintenance in Africa – A Robust Response to Covid-19 and beyond
- Adapting to climate change: engineering support water security
- Acceleration of the Achievement of SDG6 through Use of Disruptive Technologies Applicable to the Water Sector in Africa
- Singapore's Water Journey: Sustainability, Circularity, Resilience in the Era of Climate Change

Key recommendations for action

Although there is a chronic and consistent lack of data on almost all water-related SDG-6 indicators, the average progress rate for all of them is 52%. This means that we need to accelerate action, as we are not yet moving at the speed and scale needed to achieve the sustainable development goals set for water.

This current situation is exacerbated primarily by non-climatic factors, such as population growth and current production and consumption patterns. Climate change is an added problem to this current situation, increasing pressure on already stressed water resources.

Regarding climate change, the degree of mitigation we achieve will determine the level and measures needed for adaptation. The more mitigation, the less adaptation.

From an engineering perspective, we can group the main adaptation measures into three categories: those related to water supply-demand, extreme weather events and sea level rise. The term "demand" should be holistic and also refer to all other living beings and natural ecosystems.

Adaptation measures bring multiple benefits, but we must build infrastructures from a different perspective putting more value on their relationship with the rest of the stakeholders, such as the environment.

Therefore, the design step is fundamental.

We must design resilient and "no-regrets" infrastructures. Identifying vulnerable areas and testing our proposals for adaptation to climate stress tests. The circular economy of water is important, but it is also relevant to consider the life cycle of the materials we use, defining at the design stage the dismantling of facilities at the end of their lifespan and their possible subsequent use or recycling.

We are also committed to carbon neutrality, so we need to incorporate new solutions to transform the development model.