



A year of opportunity for hydropower

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We are at a threshold moment for the water community. The United Nations will recognize water as a central aspect of its agenda through a dedicated Sustainable Development Goal (SDG): 'Ensure availability and sustainable management of water and sanitation for all'. This represents the culmination of many years of advocacy by the World Water Council and the broader global water community.

While a dedicated goal for water is important to ensure visibility and focus on the issue, we must not forget that water is also the common thread that connects our social, economic, and environmental well-being and prosperity. As a consequence, it is at the heart of our ability to deliver many of the other SDGs, such as food, energy, cities, and ecosystems. I believe that this is another threshold, one where we must reach out beyond our organizational boundaries and focus on our shared responsibility to deliver collective action.

At the same time we are looking forward to a global climate agreement: climate variability and change stands as one of our water challenges. After much effort on the part of the water community, it is pleasing to see more and more decision-makers who appreciate that, by and large, all the impacts of climate variability are manifested through, by and with water. I believe that this is one of the main reasons why the concept of water security continues to grow and develop. At the same time, the climate debate must move beyond mitigation, through adaptation, towards resilience: we need a global climate agreement that is deeply complementary to the achievement of the SDGs.

This new global agreement will shift the world towards an energy mix that reduces carbon emissions, and I hope towards one that will

reduce the water intensity of energy production. In other words we will see a gradual shift away from coal-fired thermal energy to gas, nuclear, and renewables. This shift represents a huge opportunity for the hydropower sector.

Structural reform of the energy sector will coincide with changes in demography, consumption patterns, and the continued burgeoning demand for energy. For example, current scenarios suggest that more than 60 per cent of the global population will live in urban centres by 2040, and global energy demand will increase by nearly the same amount. At the same time, there is an expectation that global demand for water to produce food will exceed supply in the same time period, while water-related disasters are expected to cost the global economy US\$1 trillion by 2040.

Given the increasing gap between supply and demand, it is clear to me that water infrastructure, with hydropower as an integral part, is central to delivering water security. However, our per capita storage capacity has been decreasing since the 1980s. We need more, not less storage capacity, supported by more efficient water resources use and management, strengthened governance, and better information, if we are to meet the aspirations of these global agreements.

Water storage infrastructure must be viewed through the lens of water supply, energy, transport, food, flood, and drought. It must take into account the upstream and the downstream social, economic and environmental impacts. In other words, the water infrastructure of the future must be multipurpose. As with any intervention in the natural environment, there are choices to be made, each with impacts that are both positive and negative, there are costs and benefits. I firmly believe that the positive impacts of water resources

infrastructure and management outweigh the costs.

A key challenge in delivering water security through resilient multipurpose water infrastructure and management regimes is investment. At a global scale we are simply not investing enough to bridge the gap between demand and supply. More needs to be done.

The second key challenge is that of achieving true shared responsibility for our precious water resources. I believe that if we embrace this multipurpose infrastructure approach we also have an opportunity to redefine the water debate. Such an approach will demand new financing solutions, as well as new ways of engaging all users in genuine shared responsibility for our precious water resources. I do not believe that we can afford to pursue individual sectoral solutions around water any longer.

The provision of adequate and affordable energy is a fundamental prerequisite for human well-being and economic development, and hydropower plays an increasingly important part. Today, hydropower has become a mature and cost-competitive renewable energy source. It plays an important role in the contemporary electricity mix, contributing more than 16 per cent of electricity generation worldwide and about 76 per cent of global renewable electricity. Current hydro production reaches 2767 TWh/year, however, looking ahead, we could produce nearly 6600 TWh/year by exploiting all potential hydropower sites.

Hydro's role for the rest of the 21st century is in the hands of those developing it today, but developing hydropower requires mobilization at the highest level. With new global agreements in place I know there will be a new momentum for the hydro sector over the coming decade.



7th World Water Forum (Daegu and Gyeongbuk, Rep of Korea, April 2015). Some of the Heads of State at the Opening Ceremony, with officers of the World Water Council and the Korean Organizing Committee.

