ALEXANDER ZEHNDER

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Alexander J.B. ZEHNDER is founder and director of triple Z Ltd. (www.triplez.ch), visiting Professor and member of the Board of Trustees of Nanyang Technological University (NTU), Singapore, Scientific Director of Water Resources of Alberta Innovates – Energy and Environment Solutions in Edmonton, Canada, former president of the ETH Board and Professor emeritus of ETH Zurich, Switzerland.

He heads NTU's Sustainable Earth Office which coordinates NTU's sustainability activities, organizes the Singapore Sustainability Symposium (S3) and chairs the Scientific Advisory Board of SCELSE, one of Singapore's Research Centre of Excellence. He is a member of the Council STS (Science and Technology in Society) forum Kyoto, the Strategy Advisory Board of the Institute for Advanced Sustainability Science in Potsdam, Germany, the Scientific Advisory Board of Alberta's Environmental Monitoring, Evaluation and Reporting arm of the Government, Nestlé's Advisory Board on Creating Shared Value, and the Industry Advisory Board of zouk ventures, a London based venture capital firm investing primarily into clean technology, energy and water.

His scientific work focuses on water policy, the nexus between water, energy and food security, water safety and infrastructures, as well as innovative solutions in industrial water treatment, particularly in the oil and gas industry. He did much work on the scientific and economic fundamentals for sustainable development and creation of sustainable solutions. The Dow Jones Sustainability Index is based on some of his contributions. He is one of the "founding fathers" of the concept of the "2000 Watt" Society.

Failing water management

Water security is globally of highest priority, at least if one believes in the polls published annually. It seems that the world is divided into haves and have-nots for both, water quality and water quantity. Basically, we know exactly what needs to be done to supply every human with high quality water. To do so is not necessarily rocket science; what is needed is education and the willingness to solve locally or regionally a problem. Water quantity issues seem trickier. Water is used for many purposes, most of the water goes into food production. Climate change scenarios mostly focus on places of decreasing water availability and rarely on places where more water is available for agricultural production. Climate change, and as a consequence agricultural production and water availability modelling show some countries with an increasing water shortage. However, there will also be place with higher water availability and agricultural productivity. Globally, scarcity and availability will roughly balance out. Overall, up to 12 billion people can be fed with the existing and future available fresh water and supplied with good quality drinking water. Water security is not limited by a physical lack of water but rather by failing to deal with managing water resources responsibly on local, regional but also global scales.