



#### Water and the Sustainable Development Goals

Molly A. Walton 28-29 May 2018 IEA Experts' Group on R&D Priority-Setting and Evaluation

## **17 UN Sustainable Development Goals**







## A new strategy for energy & sustainable development



L∩e

The Sustainable Development Scenario presents an integrated approach to achieving key energy-related SDG targets and shows that these goals are compatible



Global energy use in the water sector and water use in the energy sector, New Policies Scenario



Can we ensure sustainable development for all if we don't understand and properly manage the energy-water nexus?

# SDG 6: Clean water and sanitation for all



- **6.1:** Universal and equitable access to safe and affordable drinking water for all
- **6.2:** Universal access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls
  - **6.3**: Improve water quality by reducing pollution, halve the proportion of untreated wastewater and substantially increase recycling and safe reuse globally
- **6.4:** Increase water-use efficiency across all sectors, ensure sustainable withdrawals and supply for freshwater to address water scarcity and lower number of people suffering from water scarcity
- **6.5:** Implement Integrated Water Resource Management at all levels
- **6.6**: Protect and restore water-related ecosystems
- 6 A/B: Expand international cooperation and capacity-building support to developing countries and strengthen participation by local communities

## Providing clean water requires energy



Electricity demand in the water sector, New Policies Scenario



As freshwater availability increasingly becomes a constraint in some areas, is it possible to provide access to clean water without incurring a significant energy penalty?

## The wastewater sector is a significant energy consumer



Global electricity consumption in municipal wastewater treatment



Will meeting Target 6.2 & 6.3 dramatically increase electricity demand or can developing countries leapfrog in terms of the systems used & chart a more sustainable path?

#### The energy sector requires water



#### Global water requirements for the energy sector, New Policies Scenario



How can the energy sector improve on how much freshwater it uses?

## The importance of the nexus for other SDGs





Can the world meet its climate goals if it does not properly manage its water resources?

## Areas without energy and water often overlap



Population gaining access by source



Are decentralised renewables the solution to providing access to energy and access to clean water?



 As energy-water linkages intensify, proper management is pivotal to realising many of the SDGs

New technology is opening up ways to manage the potential strains in the energy and water sectors, with potential for solutions to leapfrog current systems

Progress by several countries towards energy neutrality in the wastewater sector show that it is possible, and that the potential benefits are considerable





## molly.walton@iea.org

iea.org/weo/water