

Background Paper
Thematic Debate of the General Assembly
“Water, Sanitation and Sustainable Energy
In the post 2015 development agenda”
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Introduction

Water, sanitation and sustainable energy are at the core of sustainable development and of the overarching goal of poverty eradication, and as such are closely linked to the achievement of internationally agreed development goals, including the Millennium Development Goals (MDGs). Water and energy are also intimately linked in sustainable consumption and production patterns, and this relationship aggravates resource scarcity and conservation. Involving all stakeholders, particularly women and the young, in the global effort to eradicate extreme poverty through the sustainable use of water and energy resources will be critical to the implementation of the post-2015 development agenda.

Achieving universal access to safe drinking water, basic sanitation and modern energy services is one of the greatest multifaceted development challenges confronting the world today. The role of women and girls is also important, as in many countries they bear the burden of the provision of water and fuel for households and are susceptible to inter alia violence in the absence of adequate water and sanitation services. The post 2015 development agenda will have to respond to these challenges in a manner that allows both developed and developing countries to forge endogenous pathways that build resilience, contribute to the eradication of poverty and lead to sustainable development.

Roundtable 1 The Water and Sanitation Challenge

Achieving our sustainable development objectives of poverty eradication and overcoming inequalities, while at the same time boosting and sustaining economic growth and development is reliant upon healthy freshwater ecosystems, reliable water service provision and adequate sanitation services. Uncertain water availability is a challenge faced by many countries that can impact on economic growth, gender equality and sustainable development. Demand for water is projected to increase by 50 per cent within the next 40 years, while competition for water among multiple users and uses is already escalating. Improved access has a direct positive impact on people and communities leading to significant social, economic and environmental benefits. Ongoing discussions have revealed a broad support for a Sustainable Development Goal that addresses the water and sanitation challenge. This will require that particular attention be paid to:

Access to safe drinking water and sanitation, which figures among the main priorities of many developing countries. 768 million people still do not have access to an improved drinking water source and 2.5 billion people currently lack access to improved sanitation.

The way we manage our water resource, which has a direct impact on drinking water supplies and public health outcomes. The hydrological cycle calls for integrated approaches to water management (IWRM) at the river-basin level and cooperation between different users, i.e. agriculture, industry and domestic water users.

Water use efficiency and conservation measures, which play an important role in addressing water scarcity concerns in times of climate change, urbanization and population growth. Sustainable production and consumption patterns play also an important role in this regard.

Water quality, which is as important to human health and the environment as water quantity. Water quality challenges are often poorly understood, monitored and addressed. 80% of all wastewater is currently being discharged without any treatment at all and it has been estimated that wastewater discharge will double by 2050. Good wastewater management practices can have a pivotal role in improving community well-being..

Water-related disasters, which are on the rise. It has been estimated that since the 1992 Rio Earth summit floods, droughts and storms have affected 4.2 billion people and caused USD 1.3 trillion of damage. Approximately 90 per cent of all disasters are water-related and the economic cost of water-related disasters extends well beyond immediate losses hindering development over decades. Water related hazards exacerbate inequalities and disproportionately impact poor and vulnerable communities.

The means of implementation should also be considered. Financing, technology transfer and development, capacity development as well as the creation of conducive enabling environments including policy reforms are needed to effectively deliver on water related development priorities. Upgrading of ageing water infrastructure also tends to be given low priority in many countries. Particular attention should be devoted to finding innovative means of financing infrastructure upgrades. An option that is slowly growing in many countries is public-public partnerships (PUPs) also known as twinning.

Water is a powerful tool for cooperation across borders, sectors and communities. Proper water governance holds the potential of avoiding increased competition for water between sectors and an escalation of water crises of various kinds, triggering emergencies in a range of water-dependent sectors. Water is a key factor in managing risks.

Suggested questions to stimulate discussion:

- What are the major obstacles to achieving universal access to safe drinking water and sanitation services? According to you, what critical challenges have been not adequately been addressed by the MDG framework?
- What critical gaps does the international community need to address in order ensure the sustainability of the world's water resources? How can the challenges of drinking water supply and sanitation on the one hand, and water resources management on the other be tackled in an integrated manner?
- How can partnerships with the business community contribute to address issues related to water pollution, water quality and sanitation in the future?
- Ongoing discussions in the Open Working Group on SDGs and in other fora have revealed a broad support for a Sustainable Development Goal for water. How could a possible global goal on water look like? What could be appropriate targets for such a goal?
- What concrete means of implementation (e.g finance, infrastructure, human capacity, institutional reforms etc.) must governments, their international partners and other stakeholders undertake to ensure concrete and lasting outcomes?

Roundtable 2 The Energy Challenge

Energy is central to sustainable development. No country has developed without access to reliable and affordable energy. Energy directly impacts on people, communities and countries in terms of economic growth, health, security, food and education. It also affects ecosystems and is directly linked to climate change. Sustainable energy is thus a key enabler of sustainable development for all countries and all people. Ongoing discussions have revealed a broad support for a SDG addressing the energy challenge.

Addressing the energy challenge will require that attention to paid to:

Accessibility to and affordability of modern energy services, which are the main priorities for many developing countries (in particular the Least Developed Countries) and for 2.8 billion people still depending on solid biomass and animal waste for cooking and heating and 1.4 billion still without electricity.

Development of national integrated sustainable energy systems and programmes that support energy efficiency (both in the energy demand and supply sides), fuel diversification including optimization in the use of indigenous resources, and the promotion of renewable energy for transition to lower-carbon economies.

Stable national policies and effective international cooperation that support critical means of implementation including investment, technology transfer, capacity development and regional integration necessary for pursuing national and global sustainable energy goals such as reduction of global carbon emissions and sustainable consumption and production. Addressing the energy challenge requires measures and goals at all levels combining access, efficiency and sustainability.

Suggested questions to stimulate discussion:

- How does the absence of sustainable energy services affect the global and national goals of sustainable development and poverty eradication? How does this factor affect other development goals? What are good examples of countries that have achieved full access and affordability to modern energy services? What national policies and international cooperation programmes have been successful in promoting energy accessibility and affordability?
- What are the costs associated with the implementation of energy efficiency programmes and how do they compare to alternative options such as the expansion of energy services and systems? What are the impacts of fuel diversification and energy efficiency on energy security, energy affordability and on the environment? What role can renewable energy technologies play in support of rural energy access?
- Ongoing discussions in the Open Working Group on SDGs and in other fora have revealed a broad support for a Sustainable Development Goal on energy. How could a possible global goal on energy look like? What could be appropriate targets for such a goal?
- What are the national policies that could support the necessary investment for sustainable energy systems and infrastructures? What innovative investment mechanisms can be used? How can international organizations support technology transfer and capacity development for sustainable energy development? How can regional integration support energy efficiency and technical cooperation?

Panel 3 The Water Energy Nexus

Energy production depends on water. It is used in power generation, primarily for cooling thermal power plants; in the extraction, transport and processing of fuels; and, increasingly, in irrigation to grow biomass feedstock crops. Energy is also vital to providing freshwater, needed to power systems that collect, transport, distribute and treat it. Each resource faces rising demands and constraints in many regions as a consequence of economic and population growth and climate change, which will amplify their vulnerability to one another.

Water constraints can occur naturally, as in the case of droughts and heat waves, or be human-induced, as a result of growing competition among users or regulations that limit access to water. Equally important to water-related risks confronted by the energy sector, the use of water for energy production can impact freshwater resources, affecting both their availability (the amount downstream) and quality (their physical and chemical properties).

Development of an analytical framework for the systematic and comprehensive assessment of the major links that exist between water and energy has potentially significant benefits for sustainable development and poverty eradication.

Developing policies that allow multi-sectoral investments and (technical & service delivery) designs that are not tied into strict sectoral silos and budgets and thus allow multiple-use of water systems would unlock potential. Community-managed decentralized systems that combine drinking water, small hydro-power (water mills or electronic mills + electricity) and irrigation (community-managed) provide multiple-services and opportunities to address livelihoods in vulnerable remote locations.

Managing water and energy resources in tandem offers important social, economic and environmental benefits but simultaneously presents institutional challenges. Political institutions and policies are lagging behind concepts, such as integrated energy and water evaluation and planning systems or integrated water resources management and benefit sharing.

Long-term national policies and effective international cooperation are necessary for the development of innovative global and national water-energy integrated frameworks and programmes. Means of implementation including investment, technology transfer, and capacity development are necessary for pursuing robust national and global water, energy and sanitation goals.

To avoid overexploitation and minimise trade-offs within the water energy nexus, the world must become vastly more efficient in the way it consumes resources.

Suggested questions to stimulate discussion:

- What components are needed for an effective analytical framework to guide nexus approaches? What are the lessons learnt from the existing models for addressing nexus interactions and how can these be adapted for developing country systems?
- How can governmental institutions more effectively interact with each other and the private sector to ensure better water and energy nexus outcomes? How can the local actors be involved in addressing and demonstrating the impact of nexus approaches?
- What are the national policies (including budgetary policy and processes) that could support the necessary investment for water-energy programmes and frameworks for implementation? What innovative investment mechanisms can be used to support a water-energy nexus approach?

This background paper was developed by the Office of the President of the General Assembly drawing from inputs and contributions provided by members of the UN system Task Team on the Post-2015 Development Agenda and by inputs and comments received from stakeholders in the website <http://www.un.org/en/ga/president/68/settingthestage/>

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