



Priority for Action 2.4: Promote Green Growth and Value Ecosystem Services

Water is integral to the environmental and social systems that underpin the global economy. Yet, sustainable and equitable management of water is too often overlooked, and its benefits underestimated, in economic development decisions. The Priority for Action of “Promote Green Growth and Value Ecosystem Services” is aiming to find solutions, through building bridges among the economic, social and environmental dimensions of water.

Water resource management and the sustainable delivery of water services must be addressed through collaborative, holistic and integrated strategies. Without these, given cross-sectoral demands and multiple uses for water, sustainable development has been understood as untenable. ‘Green growth’ or development of green economies is not proposed as a replacement for sustainable development, but rather as a way to operationalise it. Green growth and green economy are becoming the new currency for speaking about sustainable development. Just as equitable and sustainable management of water is intrinsic to sustainable development, therefore, there will be no green growth without water. Water and the water community globally have a critical role to play in the emerging debate on green growth.

The Priority for Action offers a bridge to the green economy focus in the Rio+20 Summit and hence, significantly, to raising the political and investment priority given to targets and solutions that will bring ecosystem benefits into the mainstream of economic decision making over water.

Core Group members

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Targets and Solutions Groups

1. Policies, laws, institutions and markets to enable transition to green economies
(Callum Clench (WWC) – coordinator)
2. Investment in innovative, efficient technologies and building natural capital for benefits including private returns, jobs growth and poverty reduction
(Béatrice Arbelot (Suez Environment) – coordinator)
3. Sustainable financing of equitable water services and water resource protection
(Xavier Leflaive (OECD) – coordinator)
4. How to value natural assets and account for them in making better development decisions (Olivier Bommelaer (French Min of Ecology) – coordinator)
5. Accounting by governments to incorporate natural assets
(Engin Koncagul (WWAP) – coordinator)

Priority for Action 2.4 is focused around **two overall aims**:

- Value water and ecosystem services and make efficient and innovative uses of water a trigger for green growth and development
- In the water sector, to promote economic tools fostering green growth

Thematic priority 2.4 Core Group

Summary

Priority for Action 2.4 will mobilize knowledge, evidence, action on solutions and policy recommendations that specifically address how water can contribute to green growth. With the high priority being given to low-carbon economic models, large investments will be made in infrastructure and technology. If these do not adequately take into account the role ecosystem services play in providing adequate quantities of water, of sufficient quality, then green growth will be undermined. Growth strategies that fail to invest in the natural capital underpinning water resources risk undercutting jobs and income growth. Taking advantage of the role of ecosystem services in water management could and should therefore play a role in triggering economic growth in developing as well as developed countries, as the global population grows and countries struggle with the ongoing global financial crisis.

The five targets are designed to bring stakeholders together to build solutions that will help ensure that sound water management will be factored into economic growth plans from national to local levels. The business sector will be integral to advancing the necessary new approaches and technologies in their operations and development plans.

Target 1: Policies & enabling conditions

Coordinator: Callum Clench, World Water Council

Target 1 By the end of 2012, propose a policy framework for action on water in green growth to decision makers that considers, amongst other things, issues of innovation, economic valuation, investment and accounting. It should support policy work on meeting the MDGs and implementation of Rio+20 agreements and commitments, at local, national and regional levels, and take into account the 6th World Water Forum's political declarations

Summary

Of the 5 proposed targets for Thematic Priority 2.4, Target 1 is the most cross-cutting and will bring together the work of the other targets and link to the regional and political processes for the Forum. In this way, Target 1 will mobilize knowledge and evidence, develop action on solutions and ultimately support policy makers with recommendations that specifically address how water can contribute to green growth.

Target 1 is closely aligned with an on-going project of the World Water Council and the Korean Government focusing specifically on water and green growth.¹ The project aims to develop and promote a framework clarifying the role and importance of water and green growth, including policy options and mid-and long-term roadmaps, for presentation at the Forum and in other international meetings, and to ensure that water features a high priority on the international agenda for green growth.

There are three phases to this project:

Phase 1 (2010 – 2011)

- Define the meaning of “Water and Green Growth” and prepare a series of case studies.
- Develop a general framework including tools and methods to support the implementation of water and green growth policies.
- Organise workshop(s) of international experts to validate the framework that could be the basis of a panel of high level personalities.

Phase 2 (2012)

¹ www.waterandgreengrowth.org

- Promote and communicate with the results of the Phase 1 at the Forum and in other international meetings.
- Tentatively prepare a roadmap for strengthening the role of water in green Growth.

Phase 3 (2013 – 2015)

- Develop innovative solutions for water related issues based on the results of the Phase 1 and Phase 2.

Integrating Target 1 and the joint project will require the following steps:

- Formulation of a framework for action
- Promoting the adoption of the framework into outputs of the political process
- Supporting the adoption of the framework by champions in the political processes

It is expected that the following key topics will be covered by the framework:

- Policy for the development of a green economy, including the creation of enabling environments for green growth using legal, institutional, and regulatory instruments.
- Identification of possible transition pathways leading to a green economy, including estimating returns on investment for technologies and natural capital, introducing sustainable financing models, including ecosystem valuation in policy making and improving green accounting and data quality.
- Framing political messages around green growth from the Forum
- Creating a synthesis of other Forum targets under 2.4 and in other processes.

This project will require the collaboration of a wide variety of key stakeholders, many of whom are already working in the area of water and green growth towards a green economy. These include the OECD, UN-Water, UNEP, UNESCAP, and national governments at all levels of economic development. As nations everywhere are looking to continue growing and developing their economies, the lessons learned by past mistakes in managing environmental resources can offer both cost savings and encourage more stable economies in the future. The proposed framework will help to identify the key role water plays in the greening of growth and how this can be implemented in policy making at all levels of government. This means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. This means catalysing investment and innovation which will underpin sustained growth and give rise to new economic opportunities.

Target 2: Returns on investment for technologies and natural capital

Coordinator: Beatrice Arbelot, Suez Environment

Target 2 By 2015, a group of international institutions set up tools and case studies to quantify the impacts on poverty reduction and/or job growth of drinking water supply, wastewater management and natural capital investments.

By 2015, provide tools to stimulate innovations linked to water either technical or management mechanisms in order to better protect / restore aquatic ecosystems and to contribute to low carbon, circular economy. By 2012, share examples of such innovations and of existing stimulation mechanisms.

Summary

Analysis will have to be conducted under 3 main pillars:

- **Quantify the impact on poverty reduction and jobs growth of:**
 - **Drinking water supply and wastewater management**
 - **Sustainable water resources development (linking to agriculture and energy)**

OECD has done an extensive analysis regarding the benefits from investments in water and wastewater (report ENV/EPOC/GSP(2010)2011 dated February the 3rd 2011).

This report summarizes the state of art on this matter.

In this report, it is stated that the benefits from access to drinking water and sanitation has an investment return from 1 to 7 in developing countries.

It calls for the launch of complementary studies that would be done with the same methodologies and that would cover various type of situations all over the world.

The work of the TSG could be to foster financing to launch these studies.

An advocacy paper based on the OECD report should be presented at the Forum as well as the launch of the complementary studies.

The analysis should include assessing and including returns of investment in natural capital in investment decisions

The OECD approach will be associated to the WSP approach on developing countries.

- **Stimulate technical innovation towards:**
 - **Protection / restoration of aquatic ecosystems**
 - **Low carbon / circular economy**

Public policies should stimulate innovation regarding water, by directing amounts of public R&D to water and creating a stimulating environment for private investments in innovation: risk sharing, subsidies,...

Innovation can come from the water sector but also from other sectors (energy, industry, agriculture...). Additionally, the impacts could be direct or indirect (changes in incentive systems, altered consumer behavior etc.)

Examples from such innovative schemes that have a positive reward on the protection / restoration of aquatic ecosystems could be presented at the Forum:

The work carries out by the Eco Innovation Observatory regarding innovation in the water sector will be worth being presented: "How Eco-Innovation can contribute to the sustainability of Europe's water resources?"

- **Stimulate innovative management approaches aiming at protection / restoration of aquatic ecosystems and ecosystem services from watersheds**

Innovative management approaches aiming at protection / restoration of aquatic ecosystems should be fostered.

Focus on incentive systems that help conserve and manage aquatic ecosystem services through addressing drivers and pressures within the watersheds /river basins (within water sector, we could look at some environmental flows case studies)

Ways to avoid, minimize or mitigate ecosystem services risk to business

It should be based on the testing of new financing schemes remunerating activities to have a positive impact on water resources which are not remunerated so far.

(example: Green Water Credits)

Target 3: Sustainable financing

Coordinator: Xavier Leflaive, OECD

Target 3 By 2015, Water Resource Management Plans in five countries in each world region explicitly consider economic instruments to manage water resources in a green growth perspective. Namely, they make use of some economic instruments to allocate water where it creates more value, to promote water efficiency, to incentivise low cost options (including green infrastructures), and to channel financial resources to water infrastructures, services, and policies.

Summary

The OECD is working to reconcile the demand for continued economic growth and development with the need to ensure that natural assets continue to provide the resources and environmental services on which all human well being relies. This underpins the concept of “green growth”, which sees sustainable water use as an essential driver, since a lack of water of appropriate quality can significantly hinder growth. Water management can generate huge benefits for health, agricultural and industrial production. Water management can preserve ecosystems and the watershed services they provide, thereby avoiding the enormous costs that can be imposed by flooding, drought, or the collapse of watershed services.

Similarly, UNEP (2011) confirms that investments in infrastructure and operation of water-related services can provide high returns for both the economy and the environment. It highlights the need for more private and public investment in green technologies and infrastructure to boost water (and energy) efficiency and sees such investments as critical to building the green economy of the future.

The need to restore environmental flows and to allocate more water to watershed services is already generating interesting initiatives in several countries. Well-designed regulations (on environmental flows) and market mechanisms (such as payment for watershed services) still need to disseminate more widely. They all benefit from more thorough assessments of the benefits of watershed services (see TSG 2.4.5).

However, shifting water allocation– especially for environmental flows, but also among other users – can be challenging, as it requires difficult policy reforms that overturn expectations about “rights” to existing uses by different stakeholders. Gaining support for such reforms is a major challenge for policy makers.

Experience from OECD and non-OECD countries indicates that building a strong constituency and aligning incentives are two major requisites.

This Target will focus on the use of economic instruments as they can promote water efficiency across users, allocate water where it creates most value, incentivize low cost options, and generate financial flows to finance water-related infrastructures, services and policies.

This work fits well into other Thematic Priorities, in particular Financing water for All – TSG 6: Financing Water in an Integrated Approach. It also dovetails nicely with such themes as Managing the Water, Food and Energy Security Nexus, which are gaining traction in the lead-up to Rio+20 Conference.

Target 4: Ecosystem valuation

Coordinator: Olivier Bommelaer, French Ministry of Ecology

Target 4 By 2015, reference methods for guiding the economic valuation of water resources and ecosystems are available to business, governments, and finance institutions. By 2018, those reference methods are standardized to support a systematic inclusion of economic values of water resources and ecosystemic services in decision making.

Summary

The world today is characterized by the depletion of natural resources, water being a key issue.

- Although water is essential to satisfy basic human needs, it is estimated that **nearly 1 billion people lack access to clean drinking water and 2.6 billion lack access to improved sanitation services²**.
- Furthermore, **all human activities strongly depend on water availability and quality**. Hence, **the world will not be able to face the food and energy challenges without considering the water issue as a priority**. 70% of the world's withdrawn freshwater resources are being used for agricultural purpose, and the industrial sector is the second largest user of water (16%), with the energy sector accounting for 80% of the total volume.
- Because resources interact with each other in a way that can cause systemic risks, **current and predictable water shortages are leading to a tipping point beyond which change is irreversible**. Global demand increased 9 fold over the XXth century and It is now estimated that 40% of the world rural population already lives in river basins that are physically water scarce³; a global economy based on current patterns of consumption and production is placing heavy stresses on many ecosystems and on critical life-support systems⁴. Under business-as-usual with no improvement in the efficiency of water use, water demand is projected to overshoot supply by 40 per cent in 20 years time⁵. OECD foresees that about 60% of global population would live in water stressed areas by 2050 under the BAU scenario.
- From a qualitative point of view, in too many places, achievements in production have been associated with management practices that have degraded the water systems upon which the production depends. ²

Why ?

- **The world population has risen seven-fold over the last two hundred years and is expected to reach 9 or 10 billion by the end of the twenty-first century**. After topping 6 billion in 1999, it has reached 7 billion this year (2011) - an increase of 1 billion in the space of 12 years - and should total 8 billion by 2025, just 14 years from now⁶. Nevertheless, almost 1 billion people are still suffering hunger. ⁷
- Despite the economic and social disparities between countries, **overall demand is constantly growing**. In "developing countries" 2 billion middle income earners are on a trajectory to triple their consumption by 2020⁸. In the 20th century, economic output grew 22 times. In particular, regarding agriculture, the production has grown between 2.5 and 3 times over the last 50 years. More than 40%

² WHO/UNICEF, 2010

³ FAO, SOLAW, 2011

⁴ prep RIO ONU

⁵ UNEP, 2011

⁶ INED, 2011 http://www.ined.fr/en/resources_documentation/publications/pop_soc/bdd/publication/1543/

⁷ FAO, SOFI

⁸ To \$20 trillion (a figure twice the size of the current US economy) WBCSD, Vision 2050

of this increase comes from irrigation. ² This trend will remain strong in the coming years, since food demand is expected to increase by 70% by 2050, due to demography and new consumption patterns in transition countries.

Over the last hundred years, fossil fuel consumption rose 14 times⁹. Over the last 35 years, global energy demand rose by 96% compared to 167% growth in GDP and a 66% increase in population.

Pressures on resources are increasing; but “the era of plentiful and cheap resources is over”¹⁰.

- Water is wasted at cultivation level (either through low water use efficiency, or low water productivity, or inefficient irrigation nets); but water is also wasted in form of food (at storage or consumption levels), since food is virtual water (for example, 135 litres of water are embedded in one egg)¹¹

Green growth is about fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. It is also about fostering investment and innovation which will underpin sustained growth and give rise to new economic opportunities¹¹. The aim is **decoupling** economic growth from environmental pressures and water consumption.

The target group therefore could:

- Establish a common knowledge base of the economics of water resources and water related ecosystems services to enable appropriate comparisons of projects and plans. This base would guide economic assessments relying upon sound fact-based water resources and ecosystems services valuation and, where feasible, pricing. It should notably provide reference values for payment of water resources and ecosystems services, as well as for payment of well documented consumer and polluter charges. Existing works of OECD and other relevant institutions (*FAO¹² to be listed*) should be mobilised.
- Identify and select relevant approaches, consistent assessment methods and practical valuation tools to be used for integrating water resources values (natural capitals) and payments of water-related ecosystems services into land use planning and project preparation and appraisal, notably in the fields of water infrastructure, food security and energy development. This task should be done by reviewing the existing relevant databases, programs and projects, such as the Wateco and the Evri bases, the Millennium Ecosystem Assessment, the Economics of Ecosystems and Biodiversity, UN Water ¹³ and the REMEDE projects (*list to be extended*).
- Produce practical recommendations and assessment tool kits to be used by business, including farmers, governments and finance institutions, NGOs and international organisations in applying green accounting, valuation and compensation in cash or kind of water-related resources and ecosystem services in economic assessments of projects and plans for water infrastructure, food security and energy development.
- Produce practical recommendations and guidance regarding integration of water, agriculture and energy developments into sustainable land use planning. These recommendations should deal with governance and public participation issues, and aim at ensuring efficient coordination across levels of government and actual involvement of relevant stakeholders into the planning and the economic assessment processes.

⁹ UNEP, 2011

¹⁰ UE 2011

¹¹ OECD, 2011

¹² SOLAW, Aquastat, first global inventory of schemes provisioning water for cities

¹³ <http://www.unwater.org/waterindicatorportal.htm>

- Propose draft standards of the identified approaches, assessment methods and valuation tool kits and identify relevant organisations able to develop and finalize the standardisation process. Assess the realistic deadlines and budgets required for the adoption of those standards.

Target 5: Green accounting and data improvement

Coordinator: Engin Koncagul, World Water Assessment Programme, UNESCO

Target 5 By 2020, green accounting methodologies fully incorporating the environmental, social and economic dimensions of water are demonstrated in national accounting case studies for three countries.

Summary

As highlighted in the introduction, while the quality of information systems varies with each country, there are common difficulties, most notably:

- Statistics on the magnitude of water abstractions are often estimated rather than based on data that are measured or collected from censuses and surveys. The level of uncertainty varies, but it is particularly high for agriculture.
- Adequate historical datasets are rare and the dates of available statistics are not always explicit.

These deficiencies in data are further exacerbated by the lack of agreed terminology that leads to discrepancies in data compilation and analyses. While water professionals are making a significant effort to draw attention to the deteriorating data availability and trying to reverse this trend, it is symptomatic of a larger challenge. Data on basic physical aspects of water (river flows, aquifers, water quality) are inadequate, and current practices/tools traditionally disregard the real value of water resources and the environment. Despite recent major initiatives of the UN (e.g. the System of Environmental-Economic Accounting for Water) national accounts largely focus on economic performance and growth, with the environment treated as an externality. The combined effects of the aforementioned challenges further the misperception that water resources are infinite and that the business as usual approach (which disregards degradation and growing scarcity of natural resources) can continue. Therefore, decision-makers need a revised model of “Green accounting” that incorporates basic data on water stocks and flows, its use by households and other sectors, its value in the various services it provides, the costs incurred in developing, protecting and restoring water resources and services, and how these items impact the measurement and reporting of national economic performance.

Green accounting is a necessary part of the green economy’s goals to improve human well-being and social equity, as well as reducing environmental risks and ecological problems. To address these challenges, the Core Group accepts that green accounting and green economy are tools /approaches to achieve the overarching target of sustainable development, which is considered to be at the core of the international agenda, especially including the 6th World Water Forum.

The System of Environmental-Economic Accounts for Water (SEEA-Water) and the International Recommendations for Water Statistics (IRWS), adopted in 2007 and 2010 respectively by the United Nations Statistical Commission (UNSC), provide the conceptual framework for monitoring progress towards water policy objectives in countries and on an international scale. SEEA-Water and IRWS are based on, and coherent with, the System of National Accounts (SNA), which has been in use for more than fifty years and has become a widely accepted international standard for monitoring economic policies. Consequently in the work of the TP2.4.5, SEEA-Water is taken as the main methodology for development of national accounts for water, and green accounting a part (i.e. subset) of this overall mechanism. The overarching target (regardless of methodology or approach) is to inform different policy perspectives for water.

Some of the useful sources for this particular target are:

- UN Water: Chapter 4: Conference summary: water in the green economy in practice. 2011
- UN Water: A water toolbox or best practice guide of actions. 2011
- UN: System of Environmental Economic Accounting for Water (SEEAW) (2008)

World Bank: Where is the wealth of nations? Measuring capital for the 21st Century. 2006

- OECD: Towards Green Growth: a summary for policy makers. May 2011
- UNEP/ILO: Green jobs: towards decent work in a sustainable, low-carbon world
- UNEP: Green Economy: water chapter. 2011
- Green Growth Leaders: Shaping the green growth economy. A review of the public debate and the prospects for green growth. 2011.
- Colin Green: "Changing towards a green economy- a Discussion Document". Issues paper for Zaragoza Workshop, 2011.
- WWAP Scientific Paper Investing in information, knowledge and monitoring. By J.Winpenny) 2009

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