



POST-2015 SUSTAINABLE DEVELOPMENT GOALS

Wastewater and Water Quality Consultation “Economic opportunities in wastewater”

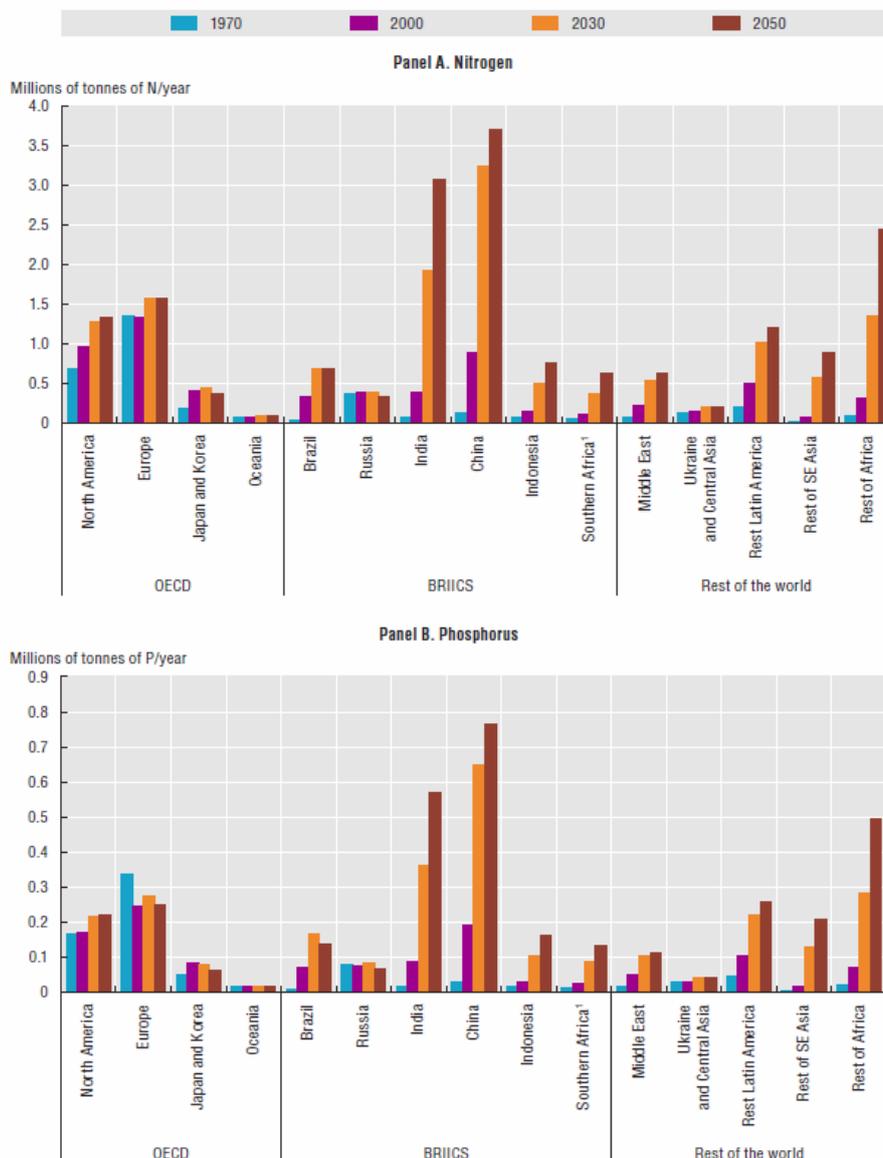
Wastewater and water quality are a significant challenge for achieving sustainable water management and are often neglected in political discussions and investment and policy decisions. Wastewater is both part of the water problem and part of the solution. Sustainable financing and much better governance are critical to moving forward. Suggestions are needed on ways to advance an ambitious, yet realistic, agenda for wastewater and water quality in the discussions around water in the Post-2015 Development Agenda.

If business as usual continues, pollution from wastewater is expected to increase rapidly

The *OECD Environmental Outlook to 2050* paints a bleak picture when it comes to water. Not only is water demand worldwide projected to increase by 55% by 2050, but nutrient pollution from urban wastewater and agriculture is expected to continue to worsen, particularly in non-OECD countries. Excess nutrients cause too much plant growth in water bodies, leading to oxygen depletion and harmful algal blooms. As a result of the increasing nutrient loads in surface water, the number of lakes with algal blooms is projected to increase globally by some 20% in 2050 compared to 2000. This causes biodiversity loss in rivers, lakes and wetlands, makes treating drinking water more expensive and restricts other human uses of water, such as recreation (OECD, 2012a).

Untreated wastewater and run-off from agriculture are significant contributors to nutrient surpluses. Worldwide, nitrogen and phosphorus effluents from untreated wastewater are projected to increase by 180% and 150% respectively (Figure 1). The *OECD Environmental Outlook* anticipates that while surpluses of nitrogen in agriculture are projected to decrease in most OECD countries by 2050, the nitrogen surpluses in most developing countries are expected to increase. Despite positive advances in OECD countries in recent years, the cost of agricultural water pollution is still likely to exceed billions of dollars annually in these countries (OECD, 2012b).

Figure 1. Nutrient effluents from wastewater: Baseline, 1970-2050



1. In the IMAGE model the Southern Africa region includes ten other countries in this geographical area including the Republic of South Africa, when dealing with land use, biodiversity, water and health. For energy-related modelling the region has been split into the Republic of South Africa and "Rest of Southern Africa".

Source: OECD Environmental Outlook Baseline, output from IMAGE.

The potential benefits of improved wastewater treatment and improved water quality are huge

Collecting and treating wastewater can generate significant benefits for public health, the environment and the economy - via tourism, fisheries and property markets, to name a few. In South East Asia, for example, the Water and Sanitation Program estimated that due to poor sanitation, Cambodia, Indonesia, the Philippines and Vietnam lose an equivalent of 2% of their combined GDP (Hutton G, *et al.*, 2008). In Normandy (France), it has been estimated that closing 40% of the coastal beaches would lead to a sudden drop of 14% of all visits, corresponding to a loss of EUR 350 million per year (AESN, 2007). Benefits for property have also been shown to be significant. Several studies show that in proximity of

areas that benefit from improved water quality, property values were found to be 11 to 18 per cent higher than properties next to water bodies with low quality (OECD, 2011).

Improving wastewater treatment is not only important in reducing pollution. Wastewater can be treated so that it is "fit for purpose" and then re-used and recycled, improving environmental quality and cutting costs of water treatment downstream. It can contribute to resource productivity by recycling material and heat; for instance, phosphorus recovery from wastewater may help fill the gap from dwindling natural sources. Treated wastewater can be a cost-effective and reliable alternative source of water in water-stressed situations. For example, Israel is using wastewater to recharge groundwater and for irrigation. Windhoek in Namibia and Singapore are paving the way in recycling wastewater for urban water supply. There are also significant economic opportunities. In that sense, wastewater can be considered as an asset, while it is traditionally viewed (and regulated) as a liability.

Despite these specific examples, in general, the benefits of water and sanitation remain insufficiently documented. This often result in a low political priority being attached to these issues, and most likely, in sub-optimal levels of investment in water infrastructure (OECD, 2011).

Financing and governance: removing barriers to scaling-up progress

Capturing the benefits of wastewater treatment and improved water quality will require sustainable financing and much better governance. While there may be a need for scaling up financing, existing financing is not always used efficiently. For instance, when low-cost options are overlooked, or when financial or investment plans are overambitious and unrealistic. Lack of policy coherence in sectors with large impacts on water, such as agriculture or energy, can put significant pressure on water systems and generate undue costs. For instance, subsidies for farmers that promote inefficient use of pesticides and fertilisers undermine efforts to improve water quality.

Sustainable financing and good governance are inextricably linked. A sound underlying institutional and regulatory structure is essential in providing a conducive climate for investment in the water sector, as well as increasing consumer confidence in the delivery of water services. Yet, poor water governance is often more the norm than the exception. There is often limited capacity at the local level, unclear allocation of responsibilities and patchy financial management. Even where sensible water quality regulations and standards are in place they may not be enforced.

The way forward for the future we want

Clearly, there is much to be done. Where to start? How can successful efforts be scaled-up and barriers overcome? The following are a few key questions for discussion:

- What should the priorities be for wastewater collection and treatment and water quality? In OECD countries? In developing countries? Globally?
- What are the most cost-effective ways of collecting and treating wastewater and improving water quality? How could these be measured?
- What are the main barriers to expanding wastewater reuse? How could they be overcome?
- What are some realistic, but ambitious, targets that could be achieved by 2030 to improve wastewater collection, treatment and reuse?

REFERENCES

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