

Access to water supply, sanitation and sewage treatment

Globally, inadequate access to safe water supply and sanitation acts as a large drag on economic growth and well-being. It affects people's health, increasing mortality and morbidity. It also reduces labour productivity, increases healthcare costs and undermines freshwater ecosystems.

In developing and emerging economies, the main challenge is to extend water supply and sanitation services to rural areas and the poor. In OECD countries, the main challenge is often to renew and upgrade existing (and often ageing) infrastructure. This is particularly vital in light of climate change, which makes water demand and availability more uncertain, and can also increase rainwater run-off in urban environments. Strengthened infrastructure would allow countries to maintain relatively high levels of water supply and sanitation services in the face of population dynamics and climate change. As a related concern, existing wastewater treatment facilities must be better equipped for increasingly stringent environmental and health regulations, as well as for new and emerging contaminants.

In that context, proper financing of water services remains a challenge, including in OECD countries. A first step is to combine revenues from water tariffs, transfers from public budgets and transfers from the international community (i.e. the 3Ts). This should aim to recover the costs of investment, operation and maintenance of water infrastructure as much as possible and where efficient. Well-designed tariffs for water supply and sanitation services should cover the operation, maintenance and renewal costs of infrastructure and a progressive proportion of capital costs, where possible. Targeted social measures, outside the water bill, are best suited to address redistributive consequences and affordability.

Main trends and recent developments

Access to public wastewater treatment has progressed unevenly across countries

Across the OECD area, the share of population whose wastewater is connected to a municipal sewage treatment plant rose from about 60% in the early 1990s to almost 80% today. About 72% benefit from at least secondary treatment. Settlement patterns, economic and environmental conditions, and starting dates vary, however. This means the share of the population connected to waste water treatment plants and the level of treatment also vary significantly across countries. Some countries have reached the economic and technical limits in terms of sewerage connection. They must find other ways of serving small, isolated settlements, including through effective independent on-site treatment systems (Figure 11.1a).

Health impacts from lack of access to improved sanitation and drinking water have been reduced, but remain severe in some countries

Reductions in health impacts, in terms of disability-adjusted life years (DALYs) due to insufficient access to safe water and sanitation, have been important. This is particularly true in Mexico and Turkey (down by 90% since 1990). Health impacts are also down by 70% or more in all BRIICS economies (Brazil, Russian Federation, India, Indonesia, People's Republic of China [hereafter China], South Africa). Progress is needed in Indonesia, India and South Africa to increase access to improved sanitation and drinking water facilities. In these countries, the consequent health impacts, premature mortality and productivity losses remain relatively high (Figure 11.1b-c).

Measurability and interpretation

The indicators presented in this chapter relate to the following:

- **Public access to sewage treatment services**, showing the percentage of the national resident population that benefits from a connection to a public wastewater treatment plant. The extent of primary (mechanical), secondary (biological) and tertiary (chemical) treatment indicates efforts to reduce pollution loads. See also *Glossary*.
- **Public access to basic sanitation and to improved sources of drinking water** as measured by the Sustainable Development Goals (SDG) indicators. This shows the percentage of the national resident population with access to improved sanitation and drinking water sources. An improved source of water may still be unsafe to drink.
- **Disability-adjusted life years (DALYs)** due to lack of access to safe water, lack of improved sanitation and lack of hand-washing facilities. DALYs is defined as the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability.

The indicator on public access to wastewater treatment services should be related to an optimal national connection rate. It should consider geographical features and the spatial distribution of habitats (the optimal rate is not necessarily 100%). As well, it should be read in connection with information on public wastewater treatment expenditure, water prices for households and related cost recovery ratios, and the quality of rivers and lakes. These indicators may not entirely capture whether the water and sanitation systems are being appropriately operated and maintained.

Data on the share of the population connected to sewage treatment plants are available for almost all OECD countries. In some European countries, the data relate to the share of urban wastewater treated expressed in population equivalents. They are thus not fully comparable. Information on the level of treatment remains partial.

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From:
Green Growth Indicators 2017

Access the complete publication at:
<https://doi.org/10.1787/9789264268586-en>

Please cite this chapter as:

OECD (2017), "Access to water supply, sanitation and sewage treatment", in *Green Growth Indicators 2017*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264268586-15-en>

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