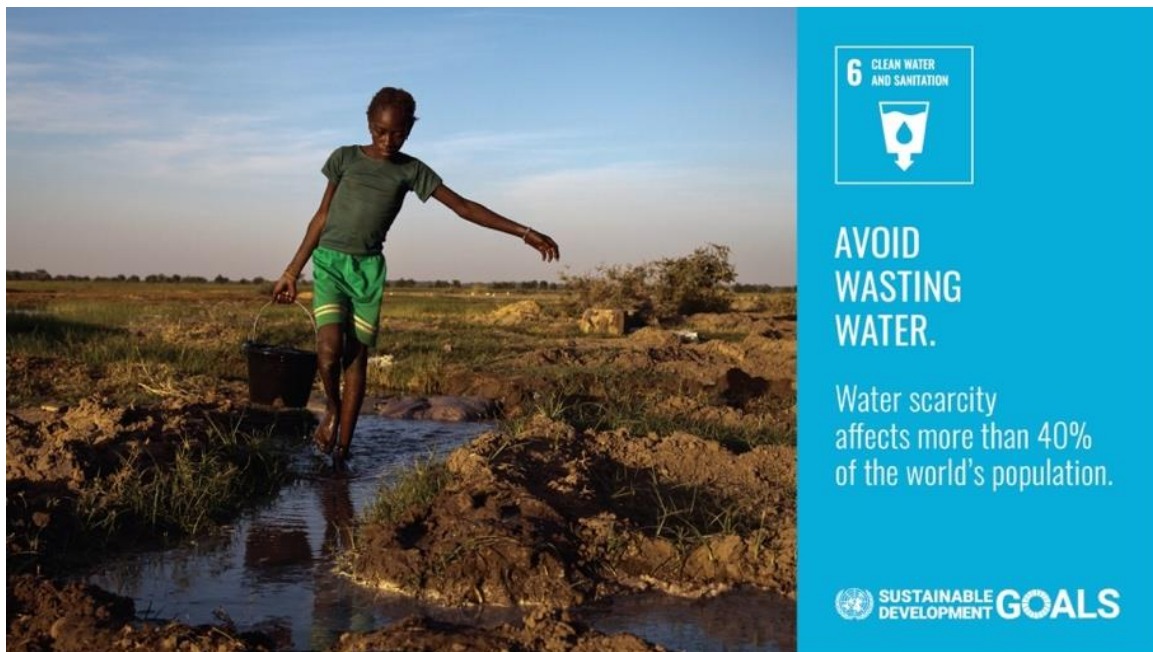


Sustainable Development Goal 6: Clean Water and Sanitation for All

**A review based on the key points conveyed during the
Lord Mayor of the City of London Coffee Colloquy
at Mansion House, London, on 16 January 2024**

**Jointly organised by the
Worshipful Company of Water Conservators
and Worshipful Company of Plumbers**



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In partnership with:
Worshipful Company of Water Conservators www.waterconservators.org
Worshipful Company of Plumbers www.plumberscompany.org.uk

Executive Summary

- In 2015, 17 Sustainable Development Goals (SDG) were unveiled by the United Nations as a shared undertaking to help improve life on earth with an ambitious 2030 target, it is unlikely this target will be achieved
- This report focuses on SDG6: Clean Water and Sanitation. There are six SDG6 indicators which provide guidance on how to achieve the goal¹
- This report highlights key areas to focus on to help achieve SDG6 which include improve data collection, increase the value of water, improve water education, increase research and innovation, develop diverse partnerships, engage young people and promote United Kingdom's (UK) sustainability expertise globally
- The report incorporates some of the key points conveyed during the Lord Mayor of the City of London Coffee Colloquy on 16 January 2024 at Mansion House, London, United Kingdom
- The actions points within this report closely align with those outlined within the UN Blueprint for Water², and UN Pact for Future³
- It links with the 2030 Global Diversity Framework⁴ target to conserve 30% of land, water, and seas, which will be reviewed in Autumn 2024
- It concludes with a recommendation to develop a plan of action that the Water Conservators, Plumbers Liveries, subject matter experts and other stakeholders from the industry and the City of London could take forward to contribute to achieve SDG6



¹ Image: SDG6 Poster (UN 2024)

² UN Blueprint for Water (UN 2023b)

³ UN Pact for Future (UN 2023g)

⁴ UN Global Diversity Framework (2022)

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1. Introduction

This report focuses on Sustainable Development Goal (SDG) 6: Clean Water and Sanitation (SDG6)⁵. It looks at the current progress made towards achieving SDG6 and how the 2030 target could be achieved. Expert opinions were collated to produce a set of SDG6 action points mainly within the UK. These were shared at the Lord London Mayor's Coffee Colloquy on 16 January 2024. The experts who took part in the Colloquy included representatives from the Worshipful Company of Water Conservators, Department for Environment and Rural Affairs (Defra), Watermarq, Queen Mary University of London, Institute of Environmental Management and Assessment, UK Water Industry Research, Future Water Association, Costain Group PLC, Worshipful Company of Plumbers, and Arup⁶.



2. Sustainable Development Goals (SDGs)

In 2015, 17 SDGs were unveiled by the United Nations (UN) as a shared undertaking to help improve life on earth. The SDGs are a blueprint for sustainability regulation and jurisdiction, and many countries are trying to make some goals legally binding. The SDG's focus on several goals⁷ with an ambitious 2030 target to achieve them all. This date is quickly advancing, and some targets are overdue. The recent UN [Sustainable Development Goals Report 2023](#)⁸ outlined that more than 50% of these targets were weak and insufficient and 30% had stalled or gone into reverse⁹. SDG's are often driving activities that are focused on the particular SDG, but it is important to understand the interrelationships between the SDG's, particularly where

⁵ Image: Collecting water in flooded area (UN 2023)

⁶ Appendix 1

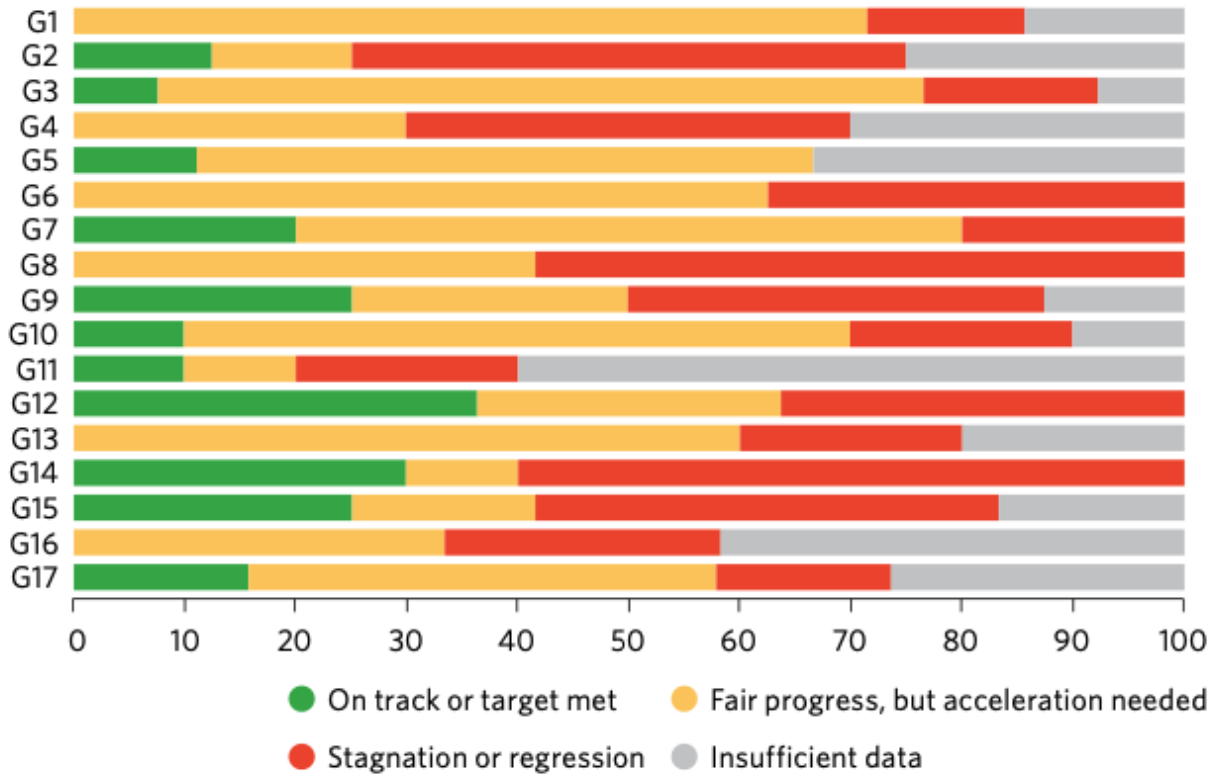
⁷ Image: SDG's (UN 2024)

⁸ UN [Sustainable Development Goals Report \(2023a\)](#)

⁹ Image: SDG progress summary (UN 2023a)

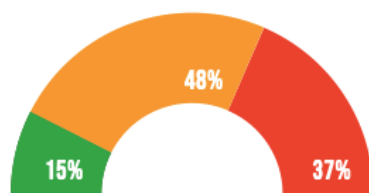
other SDG's have a major impact in relation to SDG6. SDG6 cannot be achieved in isolation – a systems view linking all SDGs is essential.

Progress assessment for the 17 Goals based on assessed targets, 2023 or latest data (percentage)



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A CONCERNING PICTURE OF SDG PROGRESS AT THE MIDPOINT:



- ON TRACK
- MODERATELY OR SEVERELY OFF TRACK
- STAGNATION OR REGRESSION

BASED ON AN ASSESSMENT OF SDG TARGETS WITH TREND DATA.

¹⁰ Image: SDG progress summary (UN 2023a)

3. Sustainable Development Goal 6 (SDG6): Clean Water and Sanitation

3.1 Current Status

The SDG6 goal focuses on providing clean water and sanitation for the whole world. Access to safe drinking water is vital for humans, which requires access to good sanitation and hygiene practices. Currently this is out of reach for billions of people. Water scarcity is becoming a big issue with climate change, and almost half the global population experienced water scarcity at some point in 2022¹¹. Within the UK water shortages are already an issue, and the current provision is not enough for future needs in 2050¹².

'Water is humanity's lifeblood. From the food we eat. To the ecosystems and biodiversity that enrich our world. To the prosperity that sustains nations. To the economic engines of agriculture, manufacturing and energy generation. To our health, hygiene and survival itself. Water is a human right – and a common development denominator to shape a better future.'¹³

Water use efficiency has increased 9% from 2015 to 2020 globally, but water stress and water scarcity are still a big issue, which will only exasperate with climate change¹⁴. We are 'dangerously offtrack' to achieve SDG6. 'There is a huge disconnect between the importance of water and actions by governments and society to manage it.' We need to speed up our actions in developed countries by six times than before, and by twenty times in developing countries¹⁵. 'Too little, too much, and too dirty water' has become the mantra for the global water crisis¹⁶.

Within the UK some of the SDG6 targets have been met, which include 6.1 and 6.2. However there needs to be some effort made towards achieving the rest of the targets, which this document will address.



¹¹ UN 2023a

¹² Environment Agency 2024

¹³ António Guterres, Secretary-General, 22 March 2023, UN 2023d

¹⁴ UN 2023a

¹⁵ Nichols 2024

¹⁶ UN 2023b

¹⁷ Image Sky News Brixham Water Contamination Crisis

Sustainable Development Goal 6: Clean Water and Sanitation for All



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¹⁸ Image: SDG6 current status (UN 2023b)

3.2 First UN Water Conference – A Step in The Right Direction

The first ever UN Water Conference was held in 2023 in New York with 10,000 delegates and was co-hosted by Netherlands, a flood land, and Tajikistan, a partly desert land. The UN produced a 'Blueprint for Acceleration' on SDG6 which focussed on five key areas (below) to help get SDG 6 back on track¹⁹:

1. **Pour in more funds:** make the water sector more attractive for investment and enable more funding for governments
2. **Fill the data gaps:** better monitoring and data collection is required to keep track of SDG6 targets
3. **Invest in the workforce:** to increase the water workforce, education and water literacy training are required especially for women
4. **Boost innovation:** encourage innovative approaches and new technologies
5. **Maximise cooperation:** more collaboration is needed across different sectors and countries

The UN Water Conference is a step in the right direction by providing a spotlight on SDG 6 and bringing experts together to help deliver SDG 6. This report represents a UK focus on SDG 6 and how they can move forward within the UK and beyond.



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3.3 UN Pact for the Future

In September 2024 world leaders will attend the UN Summit of the Future to adopt the Pact for the Future²¹, which aims to prepare the world for the challenges that it faces now and in the future. The Pact will be signed by world leaders ensuring global solidarity and positive action for future generations. The Pact will particularly address the SDG lack of progress by aiming to turbocharge the 2030 target date through better financing, policies and on the ground action. This will help the world to achieve all SDGs including SDG6.

¹⁹ UN 2023b & 2023c

²⁰ Image UN Photo/Rick Bajornas

²¹ UN 2023g

4 SDG6 Indicators

Six targets were developed to help deliver SDG 6. This section focuses on each of the six targets, and looks at their current global status, key challenges, and first-step actions to address these challenges.



TARGET 6-1

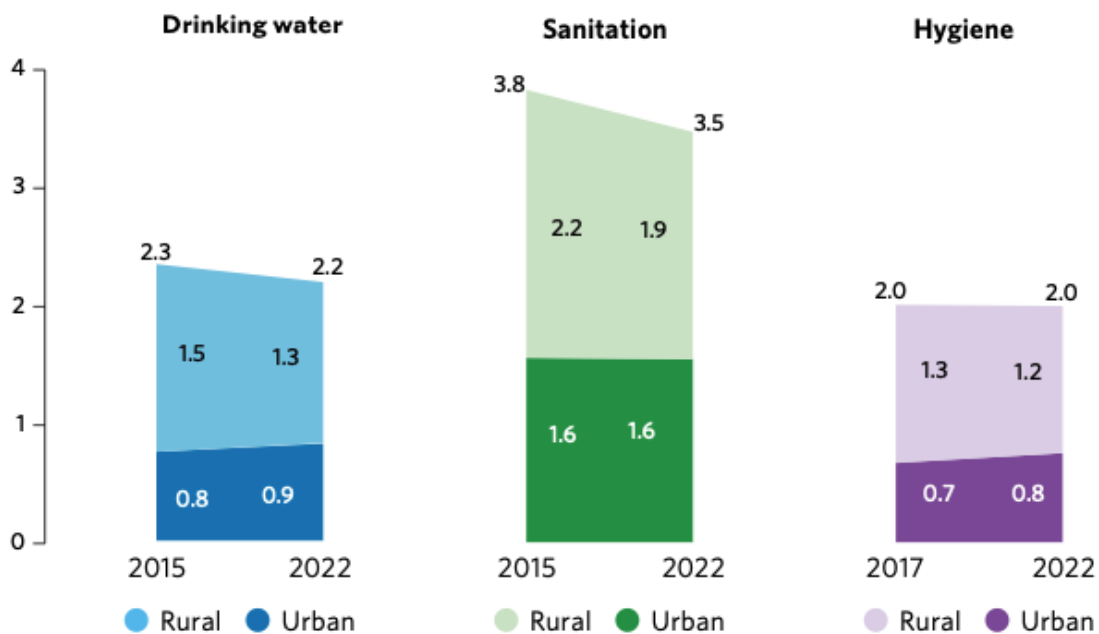
Target 6.1 Safe and Affordable Drinking Water



By 2030, achieve universal and equitable access to safe and affordable drinking water for all indicators

Indicator	Status
6.1.1 Proportion of population using safely managed drinking water services	<ul style="list-style-type: none"> • Access to safe drinking water quality 73% • 2.2 billion people do not have access to safe drinking water • Current rates of progress would need to increase by three to six times to reach 2030 target²²

Global urban and rural population without safely managed drinking water, safely managed sanitation, and basic hygiene services, 2015/17-2022 (billions)



²² UN 2023a

²³ UN 2023a

TARGET 6-2



Target 6.2 Sanitation and Hygiene

By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Indicator	Status
<p>6.2.1 Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water</p>	<ul style="list-style-type: none"> • Safely managed sanitation 57% global population • 3.5 billion don't have access to clean sanitation and this is mainly women. • 75% people have access to soap, but 2 billion people still don't have soap • Climate change will significantly increase risk of unsafe water and sanitation ²⁴



²⁴ UN 2023a

TARGET 6-3



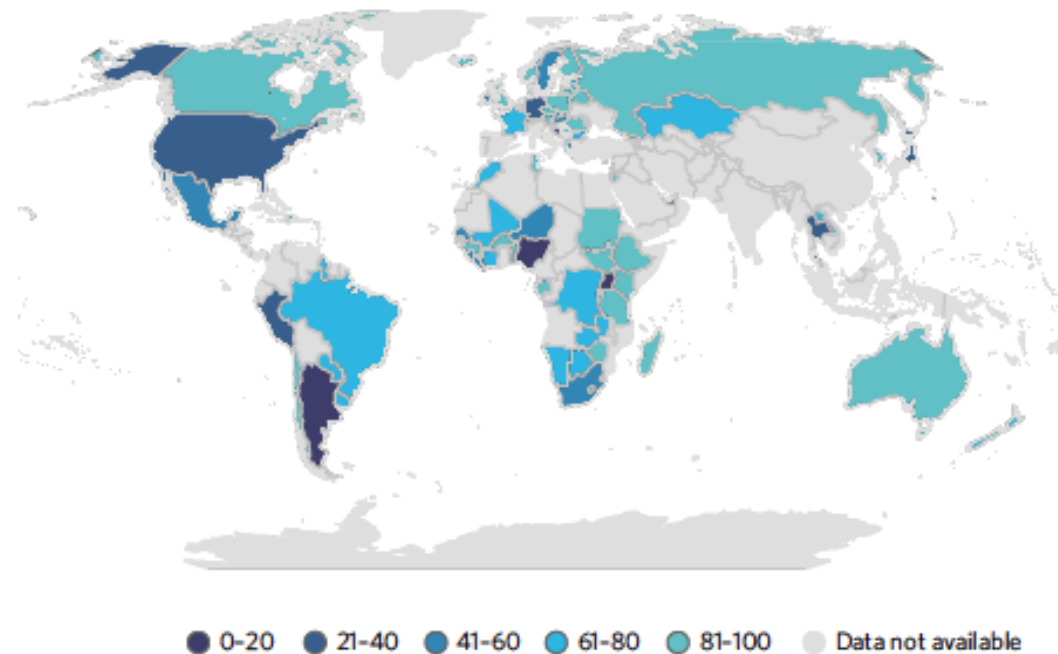
IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE

Target 6.3 Improve Water Quality, Wastewater Treatment and Safe Reuse

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Indicator	Status
<p>6.3.1 Wastewater: Proportion of domestic and industrial wastewater flows safely treated</p>	<ul style="list-style-type: none"> • 58 per cent of household wastewater safely treated in 140 countries • Agriculture and untreated wastewater are major threats to water quality • A third of water is runoff highways which need to be improved and water managed.
<p>6.3.2 Water Quality: Proportion of bodies of water with good ambient water quality</p>	<ul style="list-style-type: none"> • 44 per cent of countries on track to improve water quality • lack of water quality data for 3 billion people ²⁵

Proportion of bodies of water with good ambient water quality, 2017-2020 (percentage)



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²⁵ UN 2023a

²⁶ UN 2023a

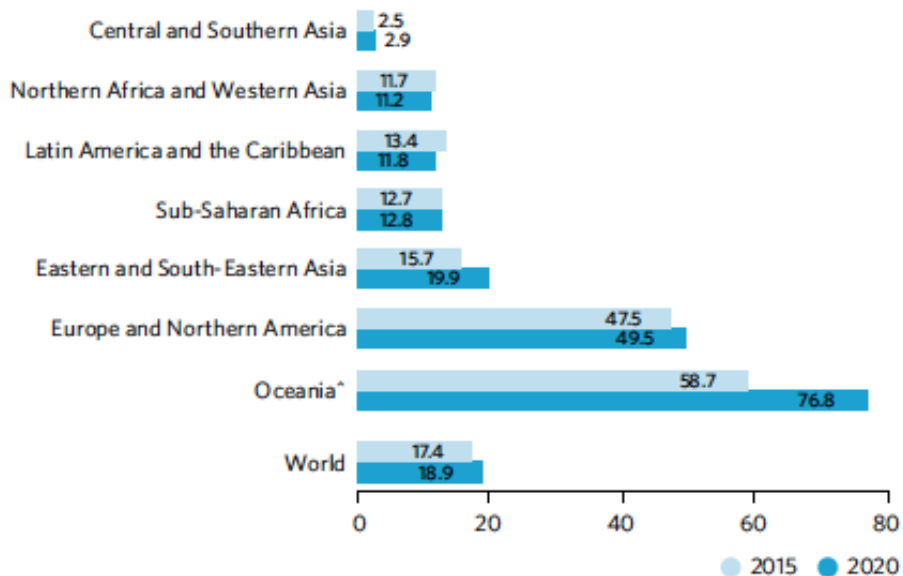


Target 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Indicator	Status
6.4.1 Water Use Efficiency: Change in water-use efficiency over time	<ul style="list-style-type: none"> Water-use efficiency worldwide rose 9 per cent Agriculture sector experienced the greatest increase in water-use efficiency Third of water is runoff highways which need to be improved and water managed.
6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	<ul style="list-style-type: none"> 2.4 billion people live in water-stressed countries Three quarters live water stress areas Increased climate disasters will result in more water stress By 2050 the UK will spend 30% GDP (£50 trillion) due to water stresses ²⁷

Water-use efficiency, 2015 and 2020 (USD/m³)



Note: Oceania* includes only data from Australia, New Zealand and Fiji.

²⁷ UN 2023a

²⁸ UN 2023a



Target 6.5 Implement Integrated Water Resources Management

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

Indicator	Status
6.5.1 Water Management: Degree of integrated water resources management	<ul style="list-style-type: none"> • Increased from 49% to 54% • 44 countries nearly achieved target, 22 countries rapid progress is possible, 107 countries urgent acceleration needed • Lack cross-sector coordination over water and operational arrangements lining other SDGs
6.5.2 Transboundary Cooperation: Proportion of transboundary basin area with an operational arrangement for water cooperation	<ul style="list-style-type: none"> • Out of 153 countries sharing transboundary waters, only 32 are covered by operational arrangements²⁹



²⁹ UN 2023a

TARGET 6-6

Target 6.6 Protect and Restore Water-related Ecosystems



PROTECT AND RESTORE
WATER-RELATED
ECOSYSTEMS

By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Indicator	Status
<p>6.6.1 Ecosystems: Change in the extent of water-related ecosystems over time</p>	<ul style="list-style-type: none"> • One fifth world’s surface water in rivers basins has changed significantly • Some river basins increased in surface-water due to flooding, reservoirs and newly inundated land. Others rapid decline due to drying up of water bodies. • Decreasing permanent water most observable in Australia and sub-Saharan Africa³⁰ • 85 per cent wetlands loss in past three centuries • 81% wetland species declined ³¹



³⁰ UN 2023b

³¹ UN 2023a

TARGET 6.A



EXPAND WATER AND SANITATION SUPPORT TO DEVELOPING COUNTRIES

Target 6.a Expand Water and Sanitation Support to Developing Countries

By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Indicator	Status
<p>6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan</p>	<ul style="list-style-type: none"> • Development assistance fallen 15% • Support has decreased every year • Poor global institutional capacity due to lack of data and low political priority (wars, famine).³²



³² UN 2023a



Target 6.b Stakeholder Participation

Support and strengthen the participation of local communities in improving water and sanitation management

Indicator	Status
<p>6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management</p>	<ul style="list-style-type: none"> • 85 per cent of countries (105 of 123 responding) had participation procedures defined in laws or policies • Less than quarter countries (29 of 117 responding) with high participation • 15 per cent of low-income countries rural populations have opportunities for participation ³³



³³ UN 2023b

5 Conclusion

This report demonstrates that despite the poor progress so far there are still things we can do to help achieve SDG 6. It has identified several first step actions that could be developed into an actionable targeted plan.

First Step Action	SDG6 Target
<p>Investment</p> <ul style="list-style-type: none"> • Encourage private investment to fund research, innovation and infrastructure projects to provide solutions for SDG6 • Provide funding to train the next generation of water experts • Develop a pool of experts to help London develop investment opportunities 	<p>6.1 Safe and Affordable Drinking Water 6.3 Improve Water Quality, Wastewater Treatment and Safe Reuse 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.6 Protect and Restore Water-related Ecosystems</p>
<p>Education</p> <ul style="list-style-type: none"> • Water education should be a key part in schools, there is not enough emphasis on teaching from an early age the importance of water and how precious it is • Provide education on how ecosystems are important for water resource quantity and quality • We need to communicate simple messages to the public to help convey the importance of water. The Covid pandemic showed that young children could be taught how to protect themselves from the virus, the same can happen with water. • Develop and run an education programme for London Schools on the value of water • Improve gender inequality regarding water use and collection through education 	<p>6.1 Safe and Affordable Drinking Water 6.2 Sanitation and Hygiene 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.6 Protect and Restore Water-related Ecosystems 6.b Stakeholder Participation</p>

<p>Data collection</p> <ul style="list-style-type: none"> • Improve data collection by UK water companies and organisations to analyse water quality • This should be unified data collection, with proper calibration, using AI to help gather the data at greater pace, whilst rolling out cost effective sensors. There should be a robust data governance system. • The more data collected, there is more research, development and innovation that drives the sector forward • Develop monitoring data on the Thames and other London rivers 	<p>6.1 Safe and Affordable Drinking Water 6.2 Sanitation and Hygiene 6.3 Improve Water Quality, Wastewater Treatment and Safe Reuse 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.a Expand Water and Sanitation Support to Developing Countries</p>
<p>Value of water</p> <ul style="list-style-type: none"> • Develop a water valuation system where water is valued higher on economic and societal ladder to encourage private investment • Water is fundamentally undervalued in most places in the world, partly because of a reliance on financial return as the arbiter of water value • Use Costain ‘public value of water’ project model to value water through a wellbeing score and help manage water use 	<p>6.3 Improve Water Quality, Wastewater Treatment and Safe Reuse 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.5 Implement Integrated Water Resources Management 6.b Stakeholder Participation</p>
<p>Nature Based Solutions</p> <ul style="list-style-type: none"> • Develop Nature Based Solutions to improve biodiversity, store carbon, filter pollutants, manage sediments, reduce flooding, wildfires, droughts in both urban and rural environments • Nature Based Solutions could help with wastewater treatment to help reduce water scarcity • Ensure that London and the Thames are at the forefront of innovation in Nature-based Solutions design, delivery and research • Nature can be very efficient when given the space to reinstate natural 	<p>6.3 Improve Water Quality, Wastewater Treatment and Safe Reuse 6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.6 Protect and Restore Water-related Ecosystems</p>

<p>processes that contribute to delivering ecosystems services</p> <ul style="list-style-type: none"> • Help fund nature-based solutions research to better understand the change of water environments including simultaneous consideration of floods and droughts 	
<p>Sharing Knowledge</p> <ul style="list-style-type: none"> • There is a huge pool of talent in London and across the UK which can help solve some of the most pressing water challenges for communities across the globe. This would require a multidisciplinary approach to meeting SDG6 and other SDG's • UK <u>could</u> improve institutional capacity to other countries with intellectual, data, governance, and knowledge capacity • Provide funding for future changemakers, innovation projects and research projects both in UK and abroad • Develop better agricultural management, distribution networks, and industrial and energy cooling processes • including scientific, planning, engineering, financial, communication and legal skills. 	<p>6.4 Increase Water-use Efficiency and Ensure Freshwater Supplies 6.5 Implement Integrated Water Resources Management 6.6 Protect and Restore Water-related Ecosystems 6.a Expand Water and Sanitation Support to Developing Countries 6.b Stakeholder Participation</p>
<p>Collaboration</p> <ul style="list-style-type: none"> • Create a water narrative that forms the investment case and supports decision-making. • Encourage feedback, collaboration, and consultation by bringing together different stakeholders • Involve young people, they are the next changemakers • Engage diverse communities and stakeholders to co-create place-based solutions 	<p>6.5 Implement Integrated Water Resources Management 6.a Expand Water and Sanitation Support to Developing Countries 6.b Stakeholder Participation</p>

Next Steps

- These actions can be shared with stakeholders to spread awareness of SDG6
- The company and the other stakeholders could work together to devise a plan to help to implement some of these SDG first step actions
- It is advisable that the documents below are consulted to create this UK SDG 6 plan, in particular the UN Blueprint for Water:
 - [UN Blueprint for Water](#)
 - [Water Innovation Strategy](#)
 - [Costain 'the public value of water' project](#)
 - [City Water Resilience Approach \(CWRA\)](#)
 - [UN Pact for the Future](#)
 - [UN Global Biodiversity Framework](#)



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Appendix 1

Lord Mayor of the City of London Coffee Colloquy on 16 January 2024

UN Sustainable Development Goal 6: Sanitation and Clean Water

The expert opinions used in this report came from the panellists below:

1. Alderman Alastair King
2. Tom Flood, CBE Fleet Warden Water Conservators and Organiser of Event
3. Professor Martin Bigg, Master, Worshipful Company of Water Conservators
4. [Dinah Nichols, CB, Former DG Environment Defra; Water Conservators](#)
5. [Alex Money](#), Watermarq; Water Conservators
6. [Gemma Harvey](#), Professor of Physical Geography at Queen Mary University of London; Bailiff, Water Conservators
7. [Sarah Mukherjee MBE](#), Institute of Environmental Management and Assessment (IEMA)
8. Steve Kaye, CEO UK Water Industry Research (UKWIR)
9. [Paul Horton, Future Water Association](#)
10. [Jeremy Galpin, Costain Group PLC](#)
11. [Dr Susanne Surman-Lee](#), Plumbers
12. Martin Shouler, Arup; Plumbers
13. [Hans Jensen, the UK Water Partnership](#)

Appendix 2

Worshipful Company of Water Conservators

<https://waterconservators.org/>



At the Worshipful Company of Water Conservators, sustainability isn't just a buzzword; it's our core mission. We're dedicated to promoting a diverse and sustainable environment, aligning closely with the United Nations Sustainable Development Goals. From education initiatives fostering environmental stewardship in schools to supporting students in universities, we're committed to leaving a positive impact. Our focus areas include ensuring access to safe water and sanitation worldwide, promoting sustainable infrastructure and responsible consumption, and advocating for climate action. Through collaboration with stakeholders and continuous improvement in our practices, we're driving meaningful change. Join us in our journey towards a more sustainable future for all.

Worshipful Company of Plumbers

<https://www.plumberscompany.org.uk/>



The Worshipful Company of Plumbers vision is to promote better plumbers, better plumbing, better health, and better lives, and they do this by supporting plumbing education, training and development, and the promotion of the 'craft of plumbing'. They are one of the oldest Companies in the City of London, and still actively supporting the craft, the City and those less fortunate. Number 31 in the order of precedence for Livery Companies, they were granted our Ordinances in 1365. The Plumbers' Company is involved with a number of pan-Livery initiatives, and is a member of the Livery Climate Action Group and Pollinating London Together.