



Eurasian Development Bank

Drinking Water Supply and Sanitation in Central Asia

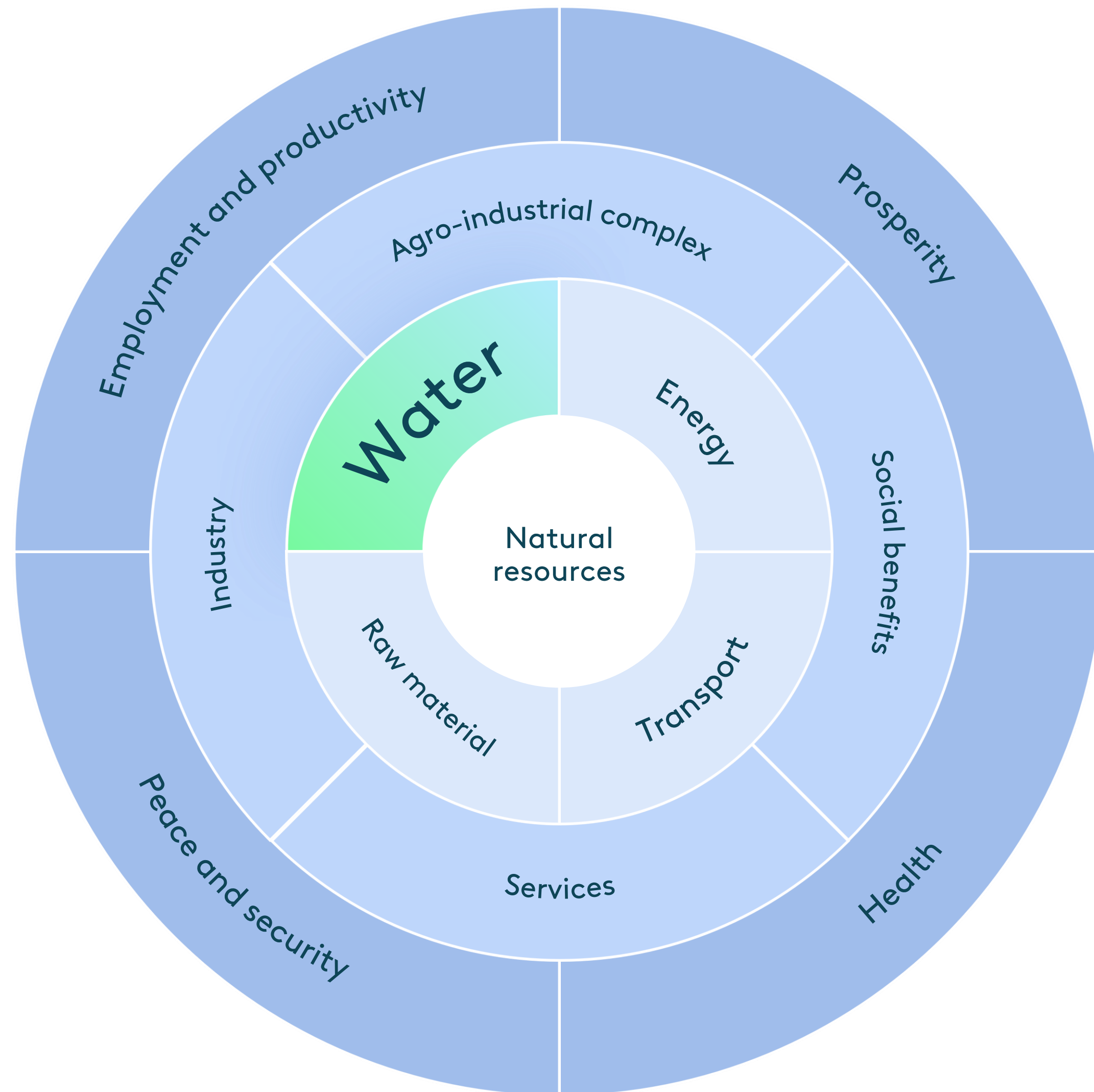
June 2024

1

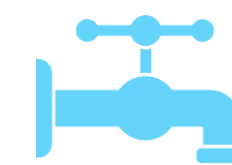
Drinking Water Supply on the Global Agenda



Water is the basis of health, security, well-being, and prosperity of people



13% of water extracted across the world is used to meet utility and household needs (CA: 7%)

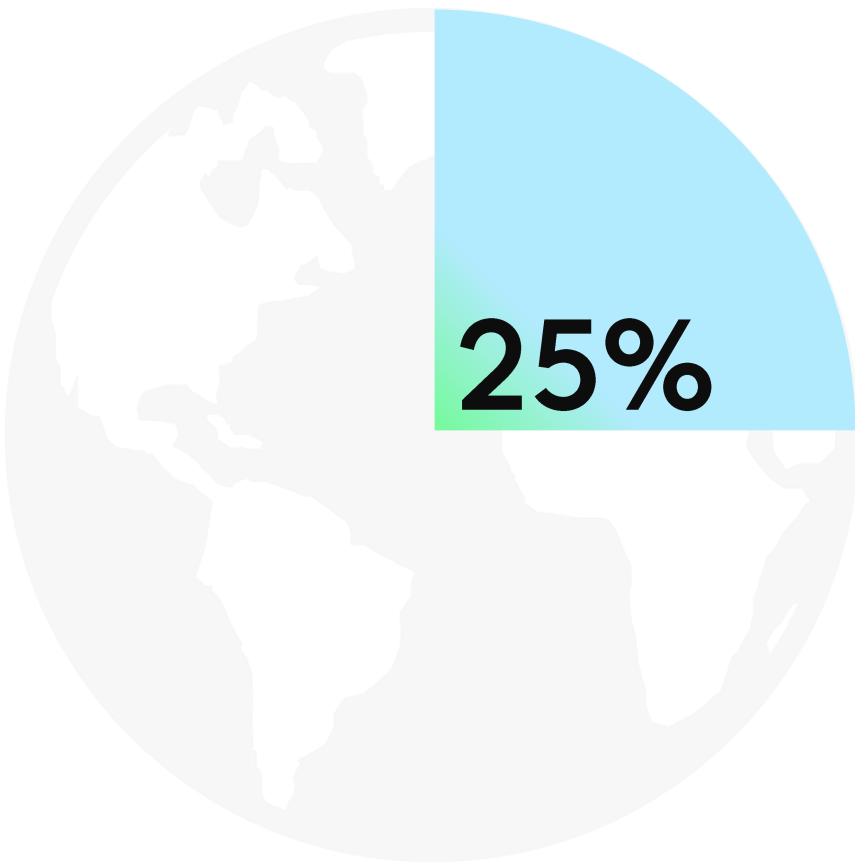


Access to quality drinking water and sanitation is a fundamental human right

Water and sanitation are at the top of the global agenda

2 bln

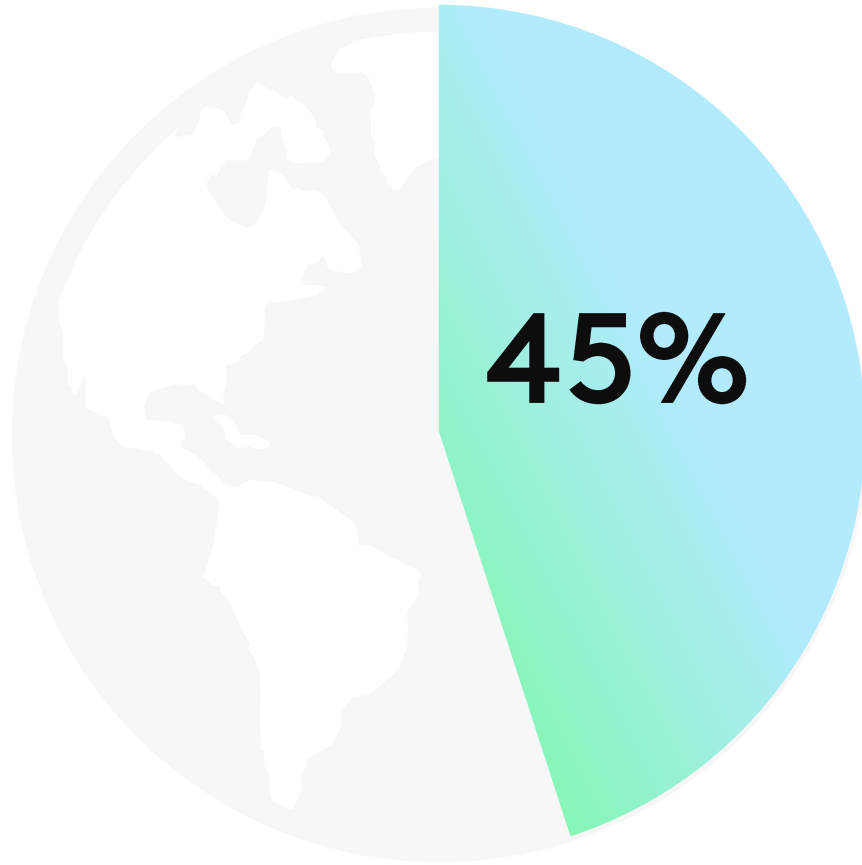
people have no access to safe drinking water



Source: WHO/UNICEF, 2023

3,6 bln

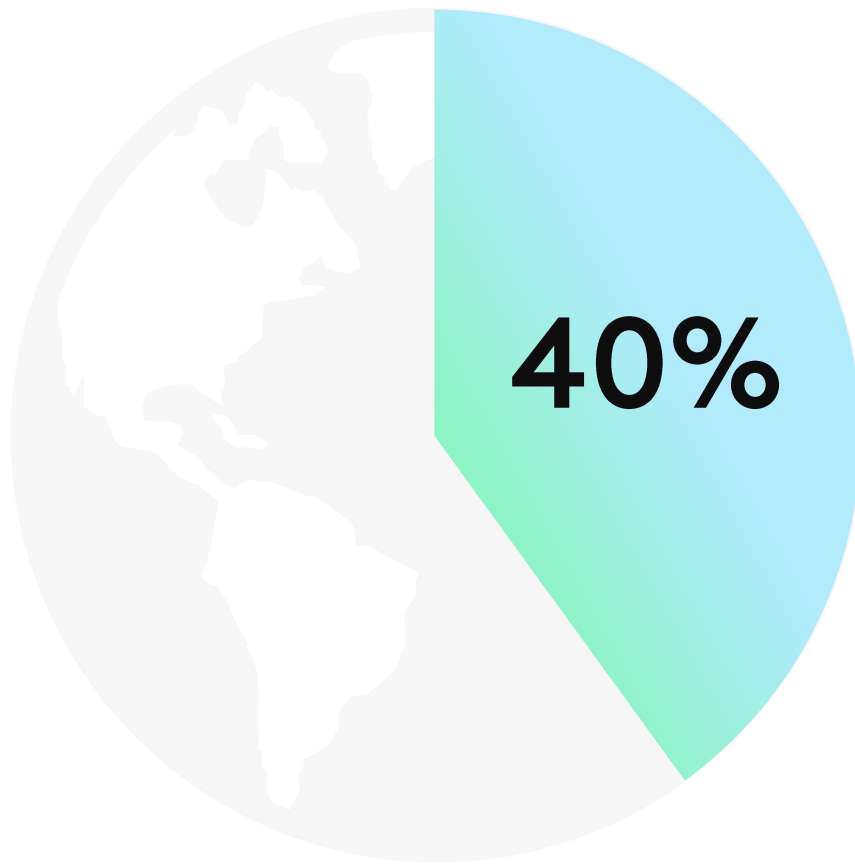
people have no access to safe sanitation



Source: WHO/UNICEF, 2023

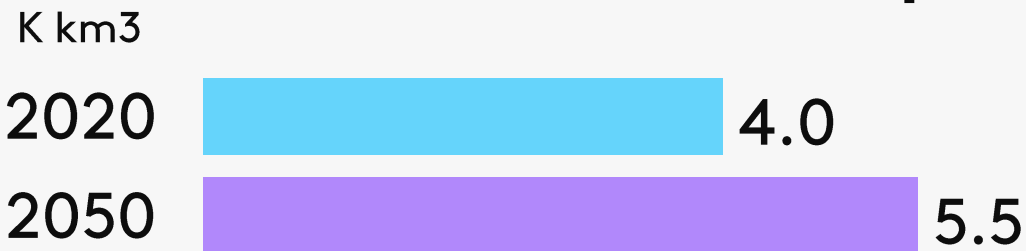
3,2 bln

people in the world live in regions characterised by critical shortage of water



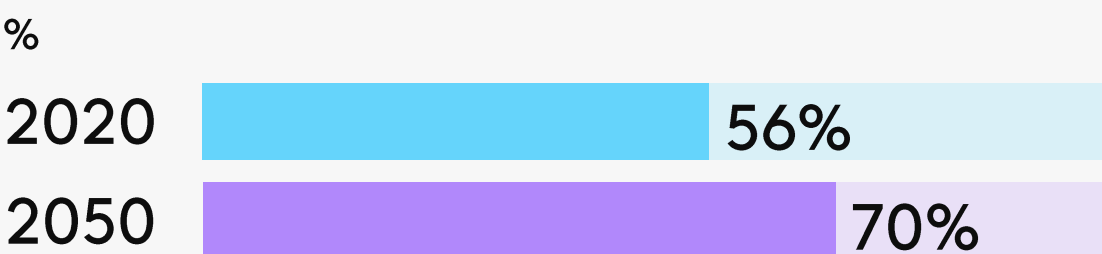
Source: WHO/UNICEF, 2023

Global Water Consumption



Source: WHO/UNICEF, 2023

Global Urbanisation



Source: EDB based on WB and UN data

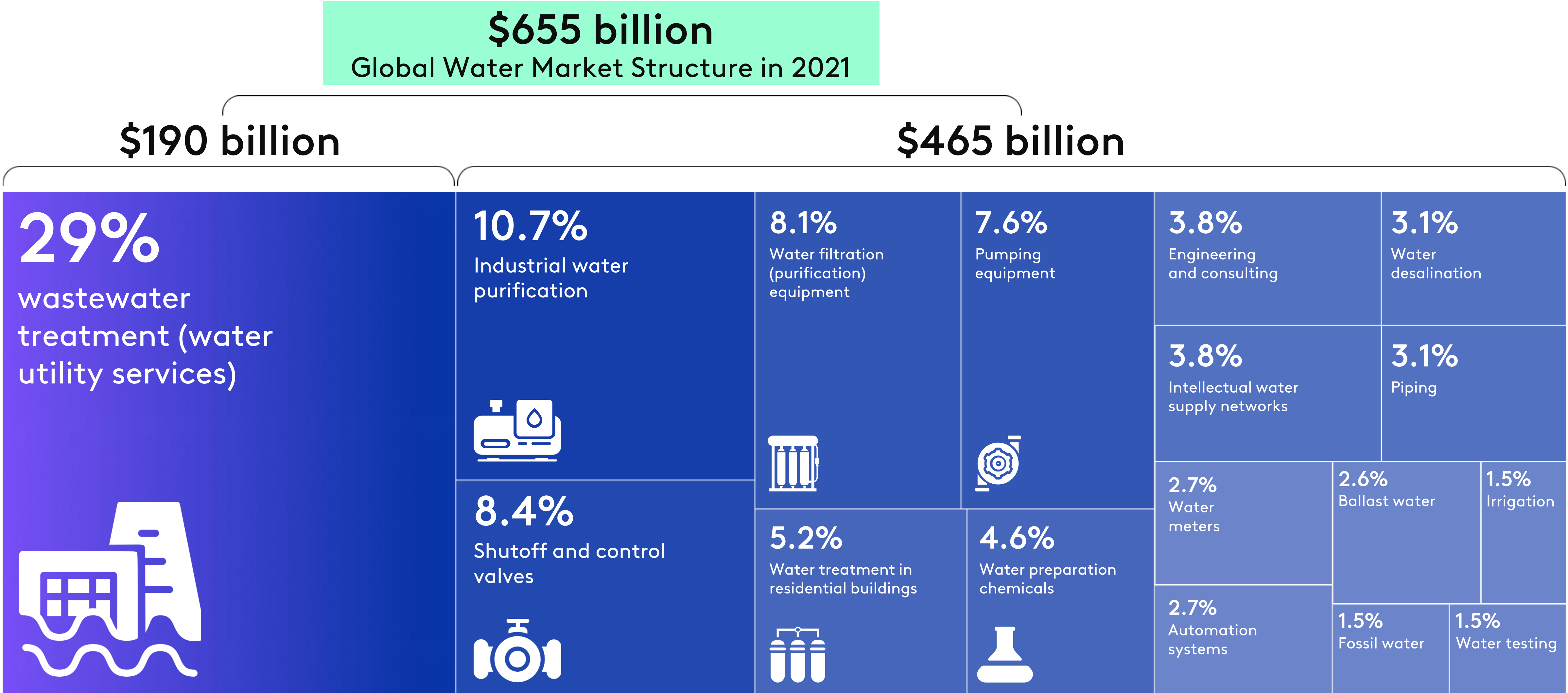
Other Factors

Climate Change and Infrastructure Degradation

Clean water and sanitation – sustainable development goal 6

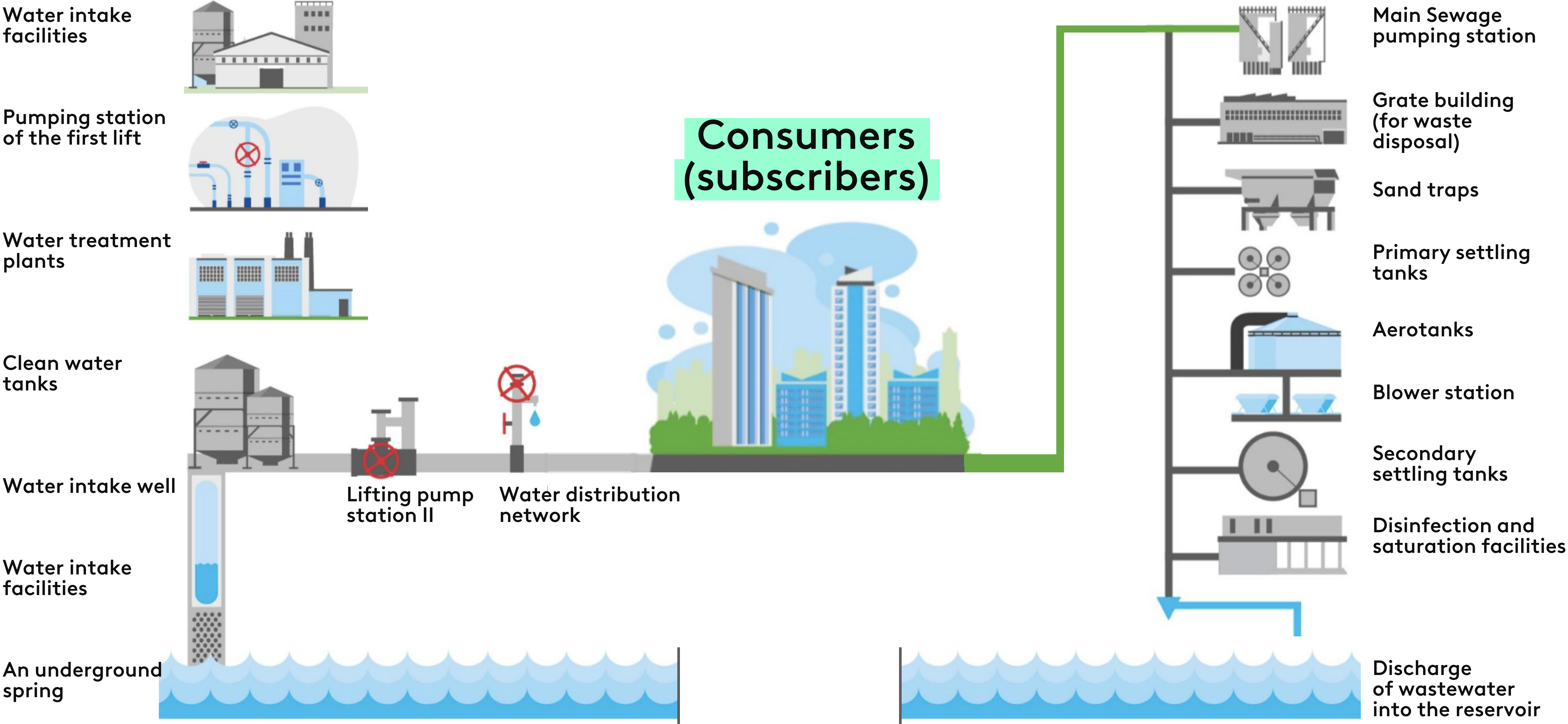


Global water market expands, holds significant international investment appeal



Global Water Market Structure

The main components of the water supply and sanitation system





2

Drinking Water Supply in Central Asia

Key factors shaping the water and sanitation sector of Central Asia

1

Water Resources
Deficit since 2028



2

Ageing
Infrastructure



3

Deteriorating Water
Quality



4

«Bad» Management
Practices



5

Rapid Urbanisation



Backlog of problems faced by the water and sanitation sector of Central Asia

2x

increase in water withdrawal for municipal and drinking needs from 4.2 km³/year to 8.6 km³/year in 1994–2020

up to 80%

wear and tear of water supply infrastructure and water treatment equipment

up to 55%

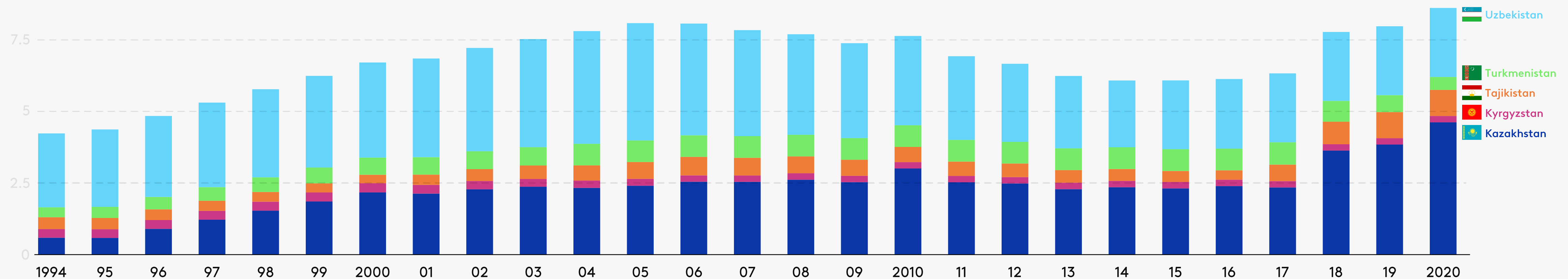
technological and commercial water loss in distribution networks

9,9 million

number of people who have no access to safe drinking water (13.5% of the population, primarily rural population)

Water withdrawal for municipal and drinking needs in CA

km³/year, 1994–2020



Source: EDB based on AQUASTAT, UN data

The state of repair of water sanitation systems is insufficient to maintain high drinking water quality standards

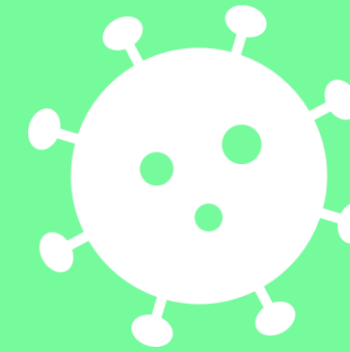
Physical access of the population to infrastructure does not guarantee access to safe water



80%

of domestic wastewater is dumped into rivers and seas without preliminary treatment

Source: Wang Mengru et al., 2024



90%

of human diseases in developing countries are caused by using drinking water of poor quality

Source: WHO



Kazakhstan

50% of water treatment plants and pumping stations have wear and tear of **more than 70%**



Kyrgyzstan

Only 27.5% of total water pumped into the system is processed by treatment facilities



Tajikistan

80% of treatment facilities are in a poor state of repair



Uzbekistan

More than 30% of the population consume drinking water that does not meet quality standards

Source: government agencies data

Non-compliance of drinking water with sanitary and epidemiological quality standards may constitute a national security threat

«Bad» management practices at water and sanitation facilities in Central Asia



Decentralization of management systems in cities and villages

1



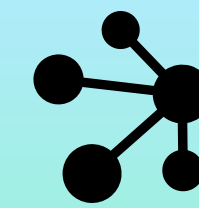
Transfer of water pipelines and facilities to local authorities

2



Privatization of housing and transfer operation and repair obligations to the population

3



Lack of a mechanism of coordination among central and local government bodies and water and sanitation companies

4

Reduced quality of planning and design

Emergency repair and restoration costs have increased by a factor of 2–3.5

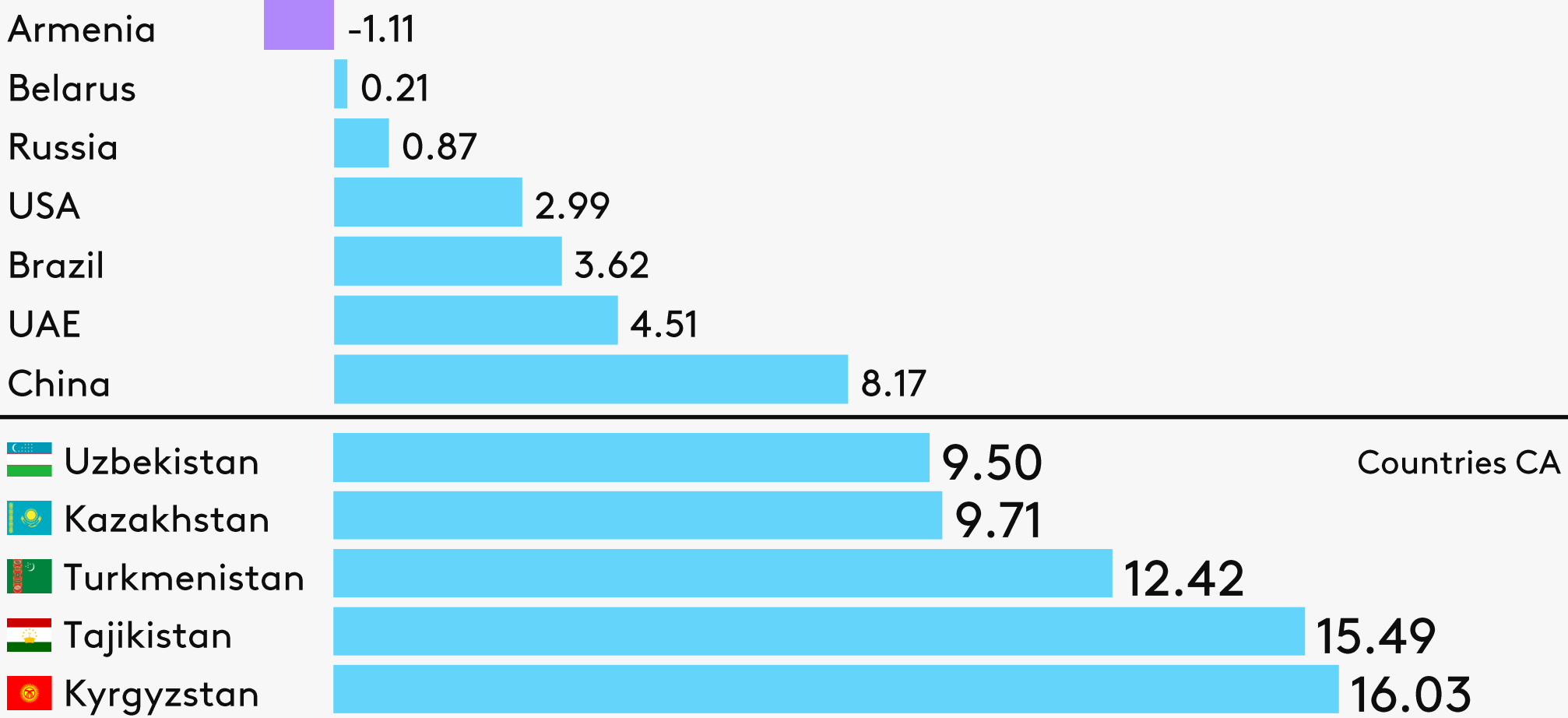
Reduced reliability of high-quality water supply to the population

Rapid urbanisation increases demand for water resources in Central Asia

→ The population and area of CA cities are growing; that process, however, is not accompanied by an appropriate expansion of the engineering infrastructure

Urban population increase

2018–2023, %

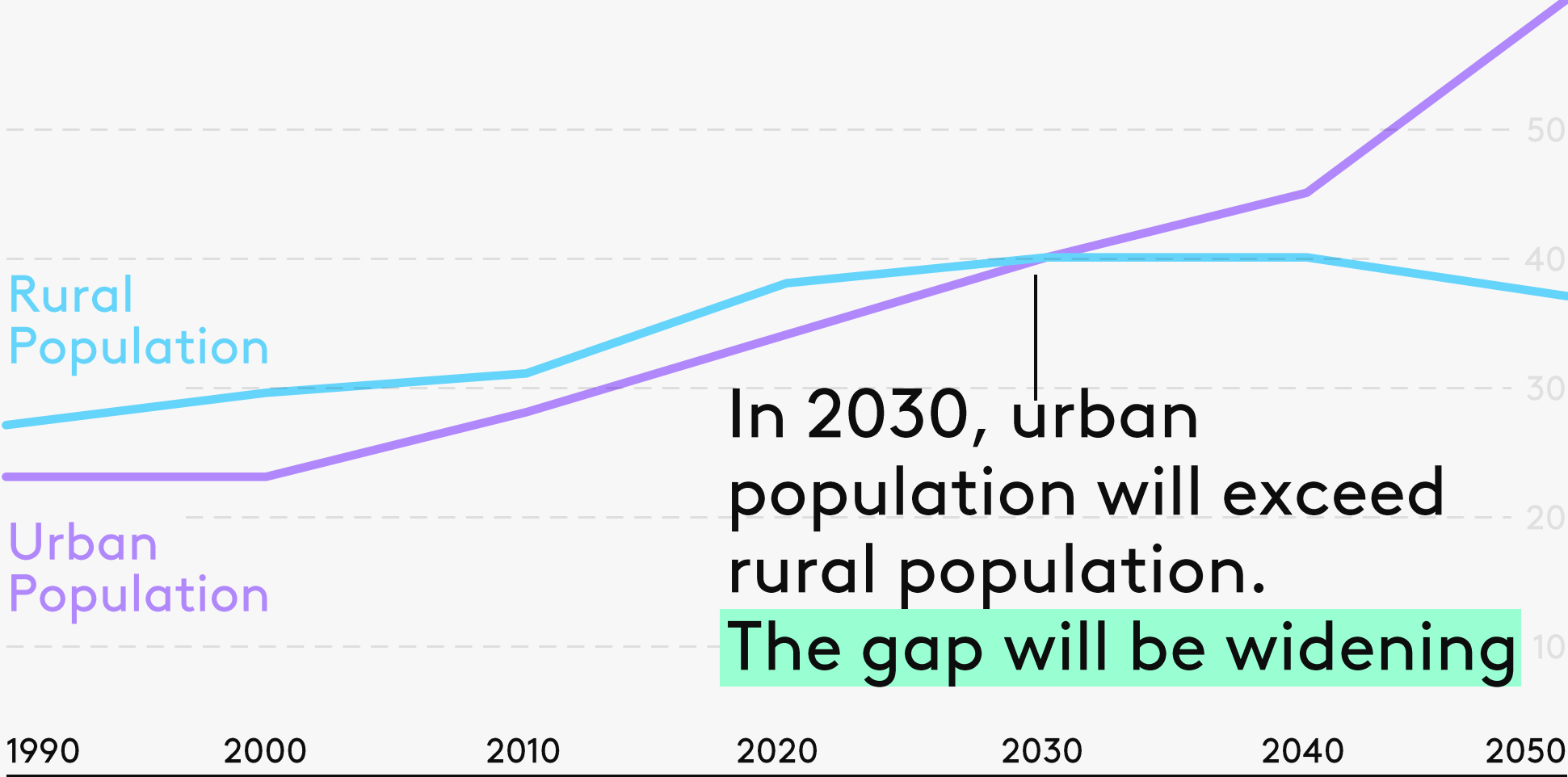


Source: EDB based on WB and UN data

→ Urbanisation in CA will increase from 49% in 2023 to 61% by 2050.

Urbanisation in CA

1990–2050, million people



Source: EDB based on WB and UN data

Importance of creation of a sustainable urban infrastructure in CA is comparable to importance of the region's WEC

3

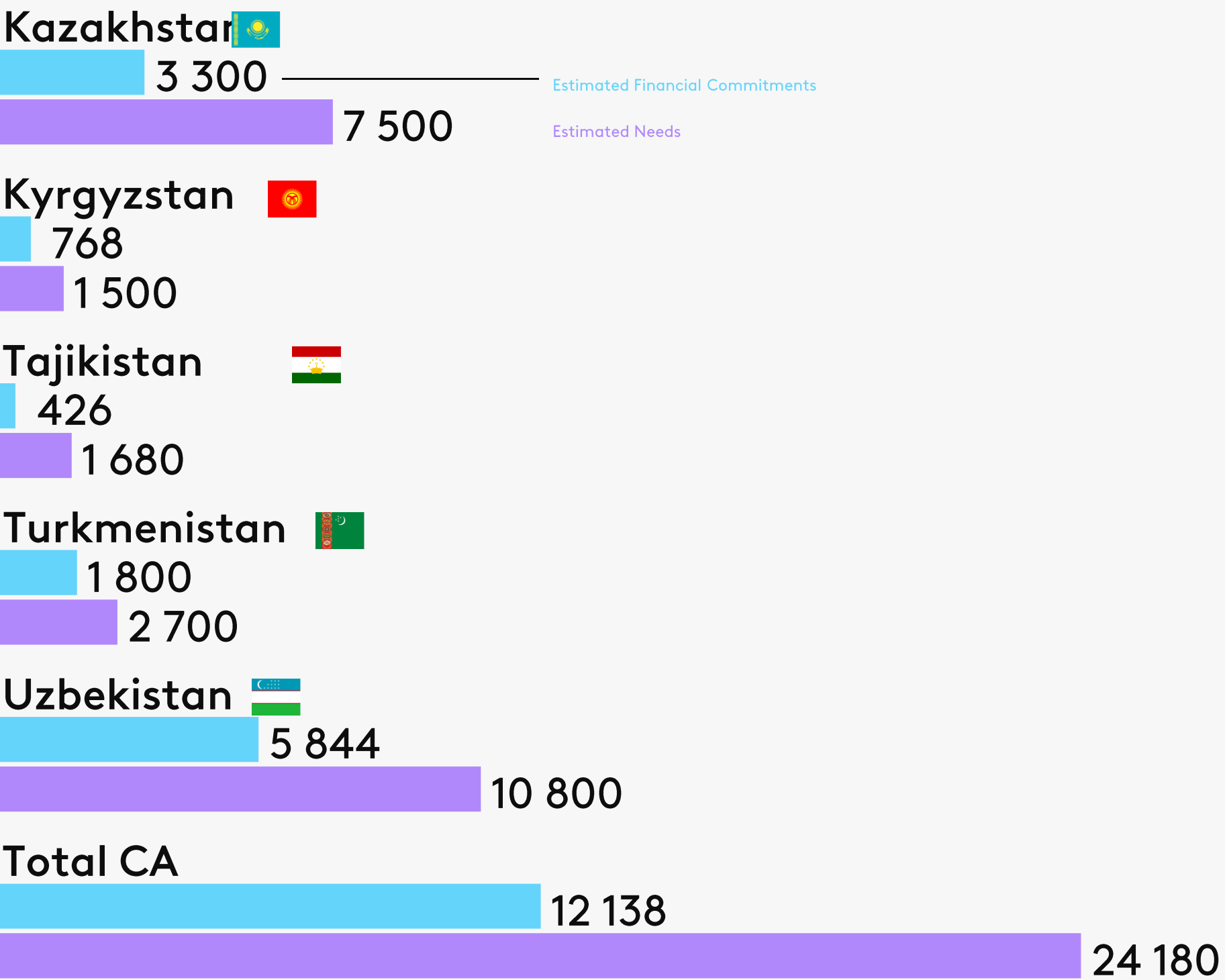
Investments in the Water and Sanitation Sector of Central Asia



Current financing of the water and sanitation sector in Central Asia is not sufficient to reach SDG 6

Estimated CA financing shortfall

\$ millions and %, 2025–2030



CA Financing needs

4–6 programmes

to improve water and sanitation were adopted in each CA country over the last 30 years.
Implementation difficulties

\$2 billion

annual CA 2025–2030 shortfall of financing required to achieve SDG 6

\$12 billion

CA 2025–2030 shortfall of financing required to achieve SDG 6

5X

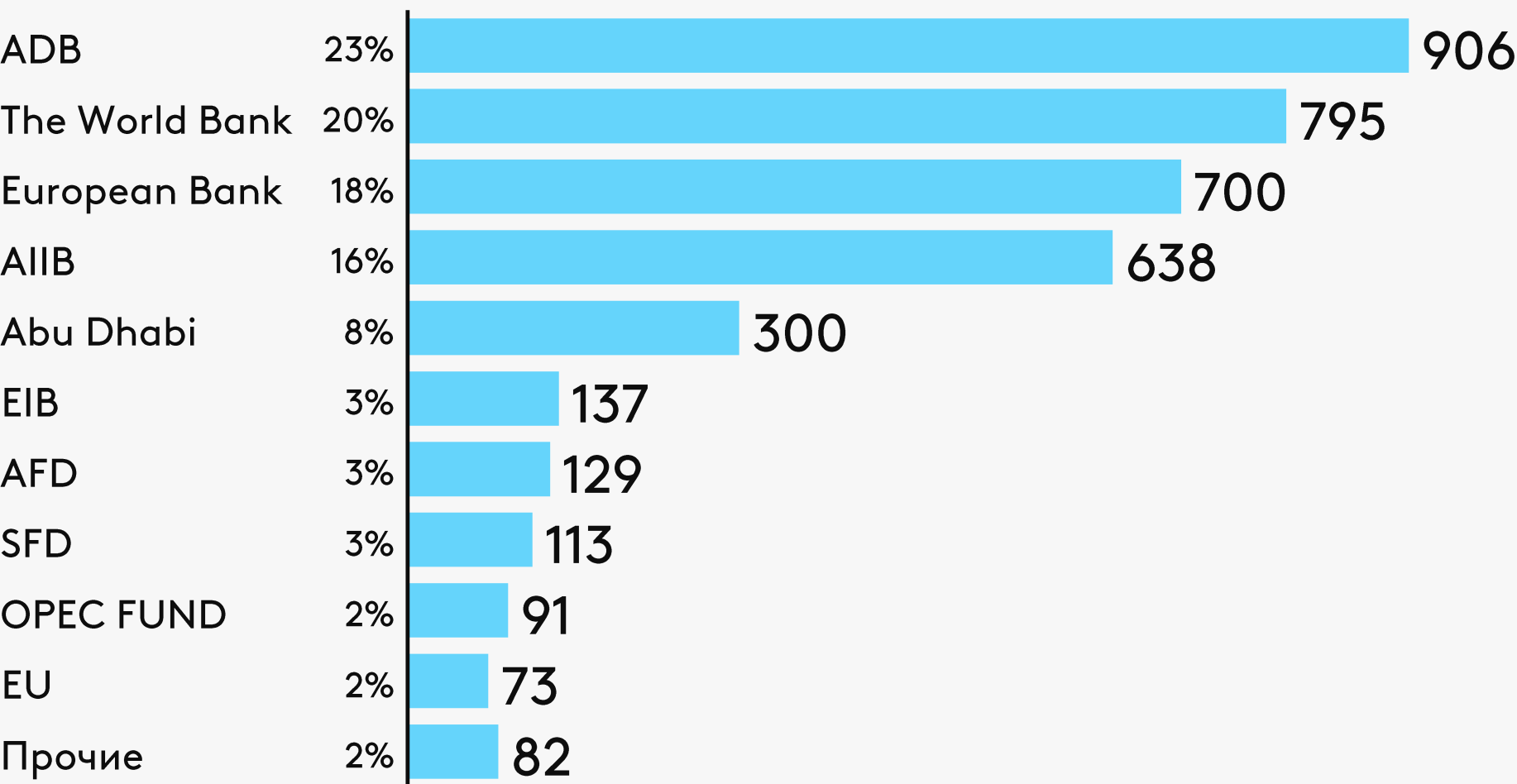
lower average drinking water tariffs in CA compared to Europe

Source: EDB based on UN and government agencies data

CA is facing a challenge: it needs to close the water and sanitation sector financing gap in the next six years

IFIs water and sanitation financing in CA

\$ millions and %, 2008–2023



Source: EDB based on EFSD Sovereign Financing Database Version 2.0

IFIs increasingly interested in investing in the sector

\$4 billion

of sovereign financing approved by IFIs under 147 CA projects in 2008–2023. It represents only 6% of total financing (\$67.5 billion)

75%

approved over the last six years (2018–2023)

76%

approved by four MDBs: ADB (\$902 million), WB (\$795 million), EBRD (\$700 million), and AIIB (\$638 million)

75%

went to Uzbekistan, 13% to Kyrgyzstan, 9% to Tajikistan, and 3% to Kazakhstan

IFIs are an important source of sovereign financing.
There are also some non-sovereign lending projects in CA

Case 1

Sovereign ADB financing in Uzbekistan



Western Uzbekistan (Karakalpakstan) Water Supply System Development Project

Project Objectives

Modernise and expand water supply networks, increase awareness of climate change and sustainability issues, strengthen water and sanitation utility services in Karakalpakstan

Form

Soft sovereign loans from ordinary capital resources

Period	Project Value	Partners
2018-2025	\$145 million	–

Case 2

Non-sovereign EBRD financing in Kazakhstan



Shymkent Water Treatment Plant Upgrade Project

Project Objectives

Provide funding for the investment programme of Water Resources – Marketing LLP, including an increase of water treatment capacity from 150,000 m3/day to 200,000 m3/day and reconstruction of the sewerage system

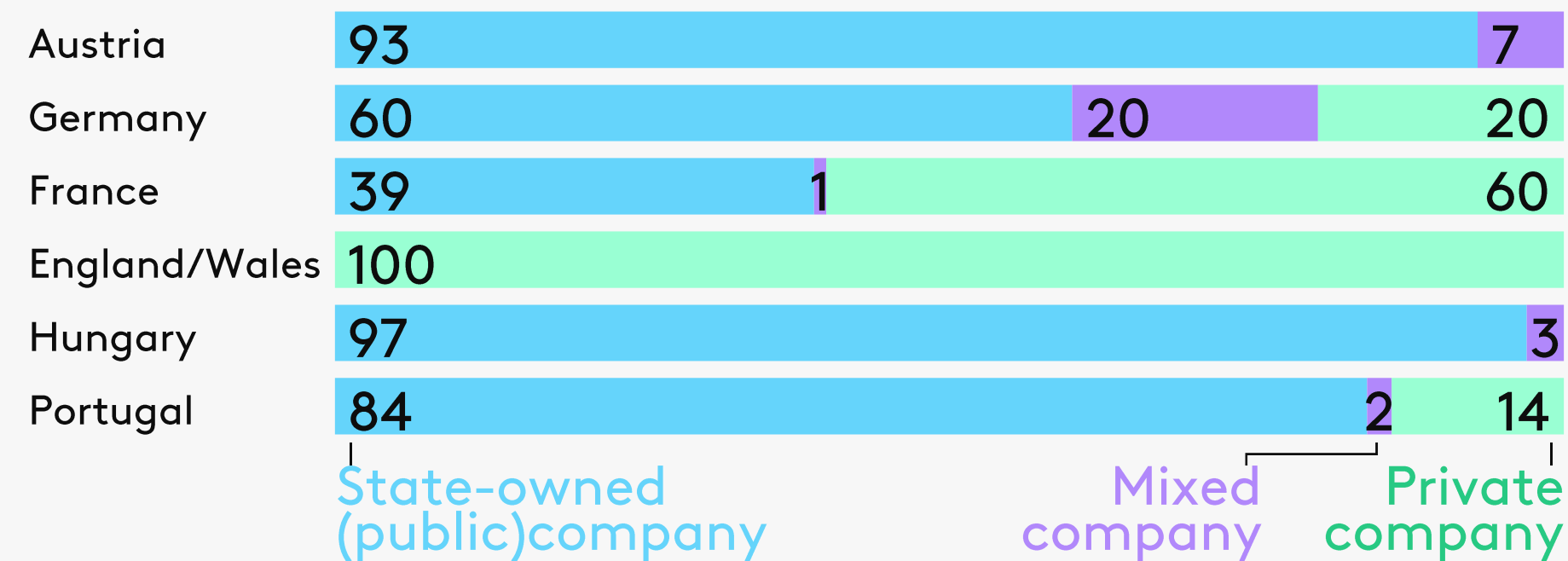
Form

Non-sovereign loans (including technical assistance)

Period	Project Value	Partners
2022–ongoing	€13.9 million	EBRD (€6.9 million senior loan) RK Government (€6.9 million capex grant)

It is advisable to attract private capital to the water and sanitation sector of Central Asia

Share of the Population Served by Water Utility Companies, %



Share of the Population Served by Sanitation Utility Companies, %



Source: Getzer M. et al., 2018

International Experience

- The state is responsible for the provision of utility services **Full privatisations are rare**
- **Private sector** involvement is expanding in many countries of the world
- Various PPP forms are used. **Concession** is the most popular form
- High dependence of concession holders on **tariffs**, municipal payments, charges, and subsidies (with England/Wales reporting one of the highest unit subsidisation levels)
- Many concession holders are **transnational companies or TNCs** (Veolia Environnement, Suez Environnement, Severn Trent, Thames Water). As a rule, they operate in large cities

4

Practical Recommendations



National level



The mechanism of intersectoral coordination



Restoration of the project expertise



Training of engineering and technical personnel



Systematic implementation of water protection principles

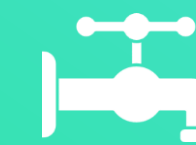
Regional level



Attracting official development assistance through IFAS



Regional training program



Water supply and sanitation program in the Aral Sea region



The main project consulting company

Achievement of SDG 6 targets by CA countries — roadmap for implementation of national strategies in the water sanitation sector



Strengthening of PPP institution

Reform of the water sector, including application of diverse forms of ownership and management methods to its companies and facilities



Prioritisation of investment projects

will make it possible to optimise the scope of financing and release a significant amount of capital investments



Engagement of operators with suitable track record

mostly in large cities



Attraction of IFI financing

the water and sanitation sector accounts for merely 6% of total IFI-approved sovereign investment financing in 2008–2023. There are examples of non-sovereign financing

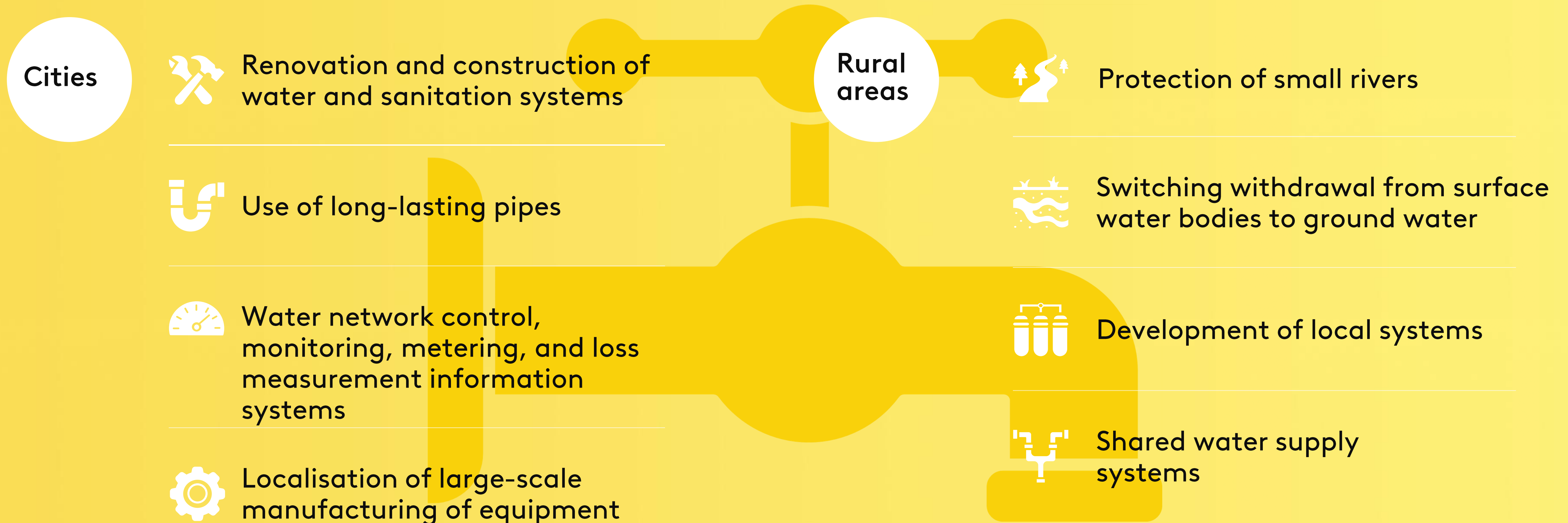
Position on tariffs

Tariff policies must be improved. Tariff hikes are possible. On the average, tariffs are five times lower than in Europe

The tariff setting function should be gradually delegated to water and sanitation companies, but it should be done under the supervision of local government bodies or an independent regulator, and with the involvement of the general public



Investments in water infrastructure lay the foundation for future economic development

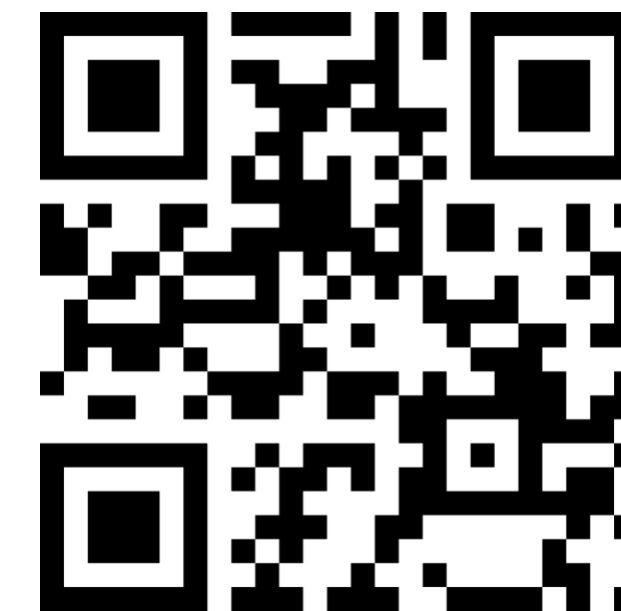


Infrastructure needs contact technical support and modernization as new needs arise, and new technologies emerge in the market

attention! Дзякуй за ўвагу! Благодарю за вним
Thank you for your attention! Дзякуй за
қммати калон! Назар салганыңыздарга рахмат!
гу! Благодарю за внимание! Thank you for y
ыңыздарга рахмат! Раҳмати калон! Назар ауд



info@eabr.org
eabr.org
Republic of Kazakhstan
050051, Almaty, Dostyk Avenue 220
Telephone: +7 (727) 244 40 44
Facsimile: +7 (727) 244 65 70



Telegram



Analytics