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THE IRTYSH RIVER BASIN TRANSBOUNDARY CHALLENGES AND PRACTICAL SOLUTIONS

Report 25/2

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The Irtysh is a transboundary river linking China, Kazakhstan, and Russia into a single hydrological system

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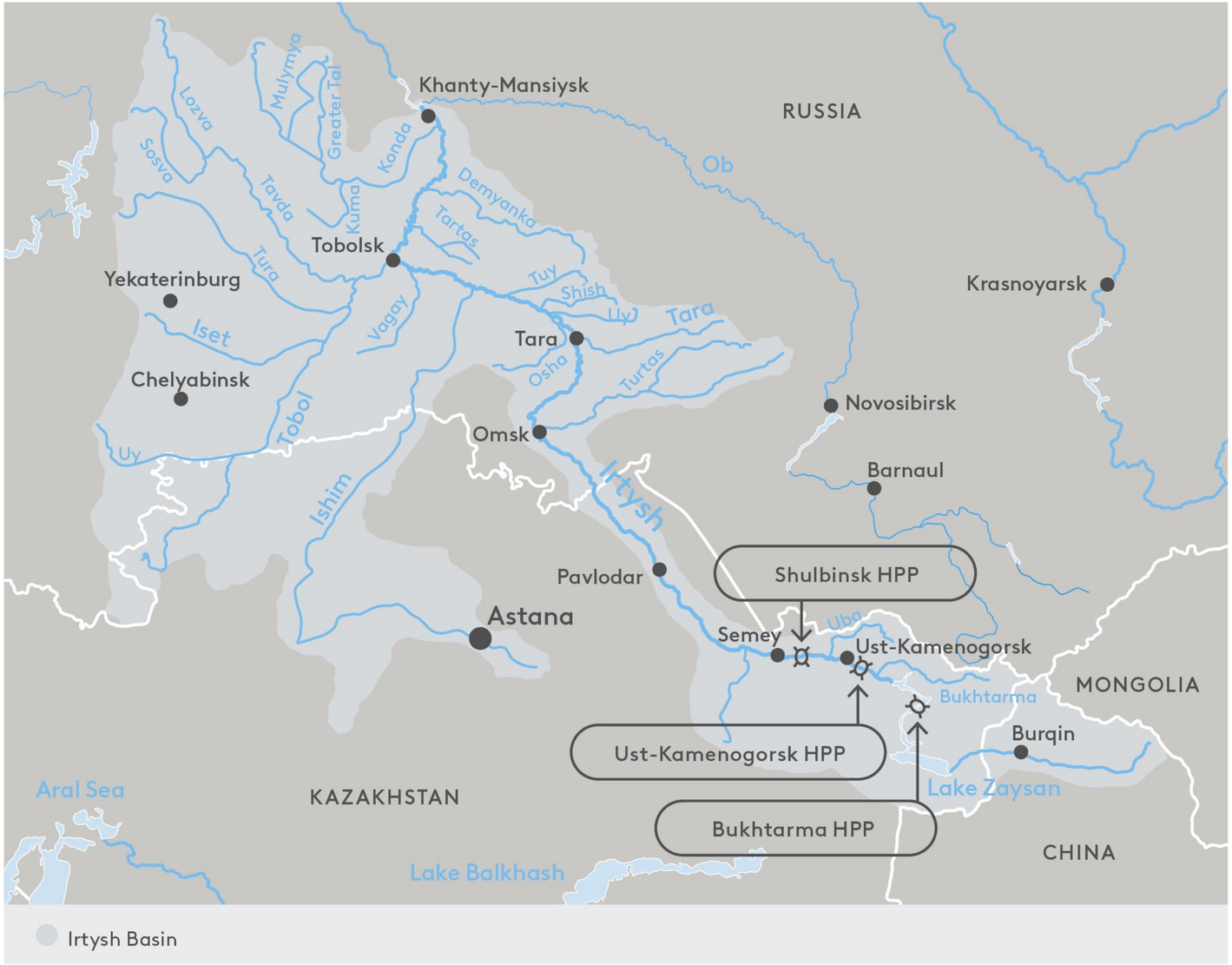


Source: EDB.

4,248 km – length of the river

1.65 mln km^2 – total basin area

91.5 km^3 – mean annual runoff

17 mln people – population within the basin

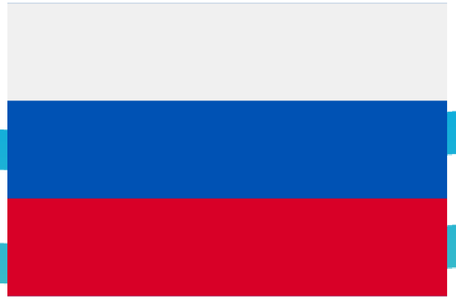
Comparative significance of the Irtysh

China

- 512 km – length
- 8.3 km^3 – mean annual runoff
- 1/3 of total XUAR water resources
- 3 mln people – population within the basin

Kazakhstan

- 1,696 km – length
- 26.5 km^3 – mean annual runoff
- 1/3 of total RK water resources
- 5 mln people – population within the basin
- 45% of total RK agricultural production
- 10% of total RK power generation



Russia

- 2,040 km – length
- 56.7 km^3 – mean annual runoff
- 9 mln people – population within the basin
- The only source of water supply to the City of Omsk
- Active navigation

Demography and geography are the two factors of increasing competition for the water resources of the Irtysh

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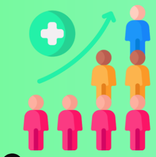
Position of China:
Withdrawal of water resources to support XUAR development plans

Major development projects in Western China until 2050

1990
15.2
mln people



2022
25.9
mln people

?

Exponential growth of XUAR water needs

Limited water resources and critical XUAR vulnerability to water stress

Heavier withdrawal of river runoff, including for water diversion, construction of water management facilities

! *China has not signed a single international treaty governing water use in transboundary water basins*

Risk of complete runoff withdrawal by China, and transformation of the Black Irtysh into an internal water source

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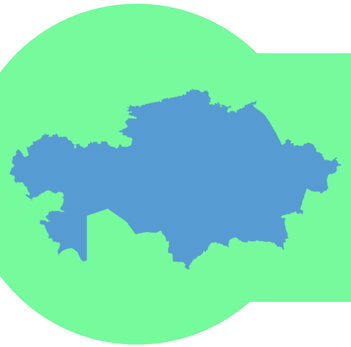
Position of Kazakhstan:
The Irtysh is the key source of water supply to the economy



1/3 of total RK water resources

45%
Agriculture

10%
Electricity

Water supply to eastern and northern regions, including the capital City of Astana

Potential source of water resources for water-stressed RK regions

Proposed limits on the net volume of inflow from China and passage to Russia (*up to 50%*)

In the absence of adequate compensatory measures, heavier runoff withdrawal by China may precipitate an environmental catastrophe in Kazakhstan

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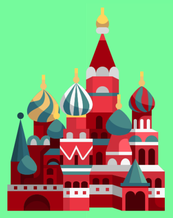
Position of Russia:
The Irtysh is particularly important for water supply to Omsk Region and Omsk



56.7 km³ of runoff *by 2030*

+2.6 km³
entire basin

-0.4 km³
City of Omsk

In the future, the hydrological situation may evolve in divergent directions

High vulnerability to the plans contemplated by China and Kazakhstan. Risk of significant runoff reduction (*especially during low-water years*)

Risk of reduction of the self-purification potential and increased water pollution of the Irtysh

Tense water management and environmental situation along the Irtysh in Omsk Region calls for compensatory measures

Solution I. Accelerated signing of framework documents on the legal aspects of apportionment of water and protection of transboundary rivers on the basis of international law

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1 **Incorporation of the key provisions of international conventions in the national water legislation and inter-governmental agreements**

- ✓ Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992)
- ✓ UN Convention on the Law of the Non-Navigational Uses of International Watercourses (1997)

2 **Expansion of bilateral international cooperation between Kazakhstan and Russia, and between Kazakhstan and China**

- ✓ support of international shipping
- ✓ prevention of water pollution and regulation of safe use of water bodies
- ✓ improvement of water use efficiency and safety during floods, low water periods, and droughts

! *The ultimate goal is to create a specific environmentally-friendly water intake mechanism*

Development of a trilateral agreement between China, Kazakhstan, and Russia is the optimal way out of the current situation in the transboundary Irtysh basin

Solution II. Coordinated operation of water management facilities and planning of future facilities

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Projects

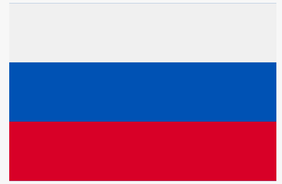
→ Construction of the 2nd stage of the Shulbinsk HPP (capacity increase from 702 MW to 1,050 MW). KZT 450 bn 2030

→ Construction of the Semipalatinsk HPP (300 MW, p.k.a. Bulak HPP) as a counter-regulator for the Shulbinsk HPP. KZT 420 bn 2029

→ Reconstruction and modernization of the Irtysh–Karaganda Canal. KZT 80.5 bn 2029

→ Construction of the Trans-Kazakhstan Canal with water intake from the Shulbinsk Reservoir. The Irtysh is being considered as the donor basin

Projects



→ Construction of the Krasnaya Gorka Hydroelectric Installation in the vicinity of the City of Omsk. Situated near the Village of Krasnaya Gorka (Omsk District, Omsk Region).

Coordination is the key to securing the requisite water level and maintaining environmental diversity of the Irtysh basin

Solution III. Development of the soft infrastructure

Development of an international integrated monitoring system

Networking to support efficient exchange of data and dissemination of information

Involvement of interdisciplinary researchers from Kazakhstan, China, and Russia

Creation of an aligned personnel training and reskilling system

Establishment of an international research center

Water use and protection issues should be resolved in line with the principles of water basin integrity and economic integration

Solution IV. Creation of the Russia–Kazakhstan–China multimodal transport corridor (MTC)

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1 Russia and Kazakhstan have started working on corridor development programs

A preliminary project has been developed for the Russia–Kazakhstan–China multimodal transport corridor

MULTIMODAL LOGISTICAL HUB ON THE BASIS OF A RIVER PORT IN OMSK REGION

2 Kazakhstan has approved the corridor development roadmap

The planned roadmap activities include the following:

i. construction of additional shore infrastructure facilities in the Cities of Semey and Ust-Kamenogorsk;
ii. construction of a KZT 5.6 bn navigation lock in the vicinity of the City of Semey;
iii. construction of a river port in the vicinity of the Settlement of Tugyl on the Lake Zaysan;
iv. construction of a 99 km railway to the border with China (*to Maykapshagay*);
v. construction of the fourth border crossing point on the border between Kazakhstan and China;
vi. modernization of port infrastructure;
vii. launch of new shipbuilding yards.

3 China offers a deeper integration of the MTC with the countries of the Eurasian region

Implementation of the Ice Silk Road project

- The XUAR (*PRC*) and the (*landlocked*) Central Asia countries will gain **ACCESS TO NEW SEA SHIPPING ROUTES** and **PORTS OF THE RUSSIAN CITIES** along the Trans-Siberian Railway;
- **DIRECT RELOADING-FREE WATER TRANSPORT** routes linking China, Kazakhstan, Eastern Asia, and Northern Europe

Development of shipping may lead to the conclusion of a trilateral agreement (Russia–Kazakhstan–China) on the utilization of the Irtysh river

Solution IV. Creation of the Russia–Kazakhstan–China multimodal transport corridor (MTC)

! *Management of the Irtysh water resources during the navigation period, and establishment of an international river authority*

Contacts

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Շնորհակալություն ուշադրության համար!

Дзякуй за ўвагу!

Назар аударғандарыңызға рахмет!

Назар салғаныңыздарға рахмат!

Thank you for your attention!

Раҳмати калон!

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