

# The Blue Paradox

From Perceived Abundance to Critical Scarcity, and the Path to a Balanced Future.



# A Planet of Abundance?

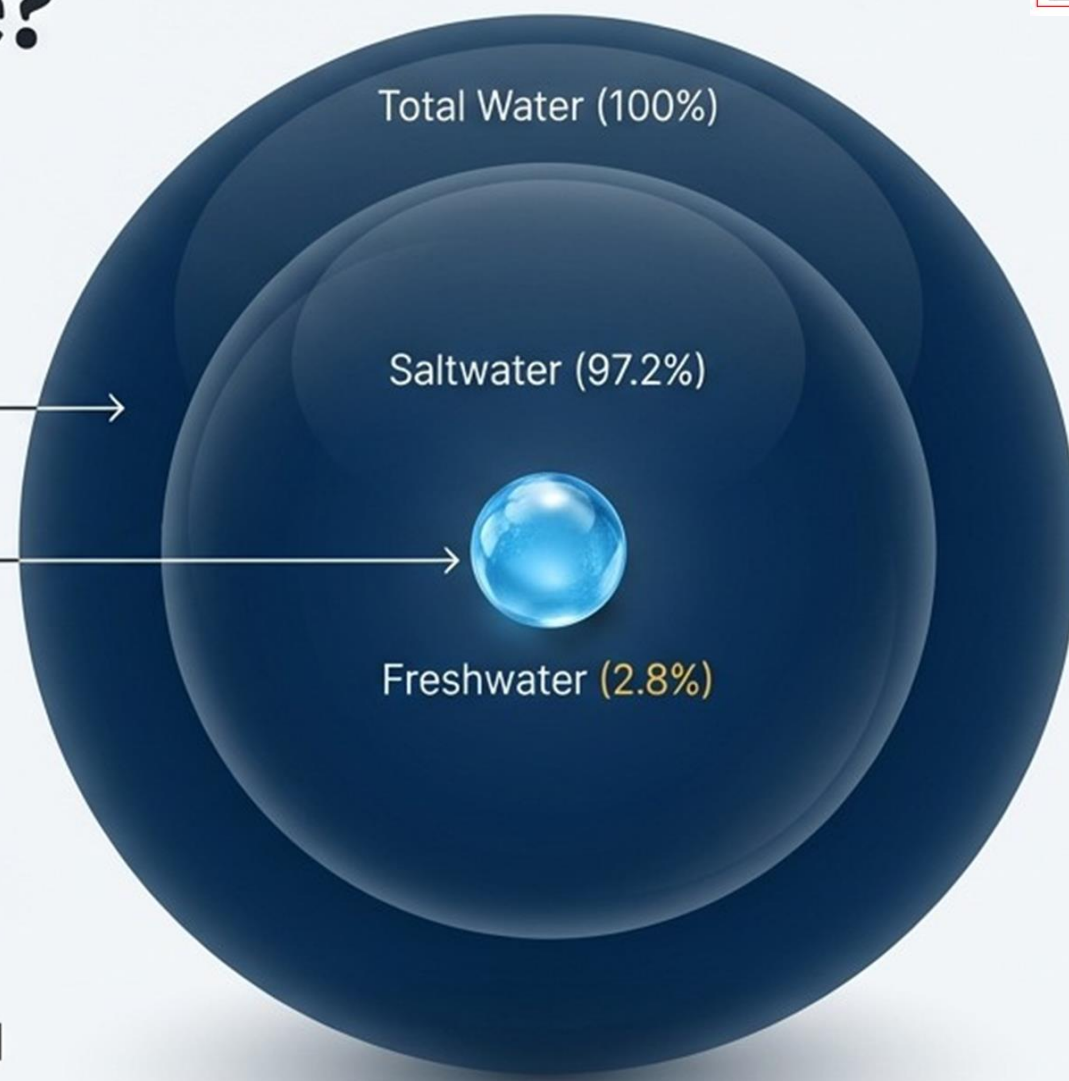
The Earth's hydrosphere is a vast, constant system, but the water we can actually use is a tiny fraction of the whole.

The planet has a constant quantity of water, known as the hydrosphere.

Only **2.8%** of this potential is freshwater, directly usable for vital human needs like consumption and agriculture.

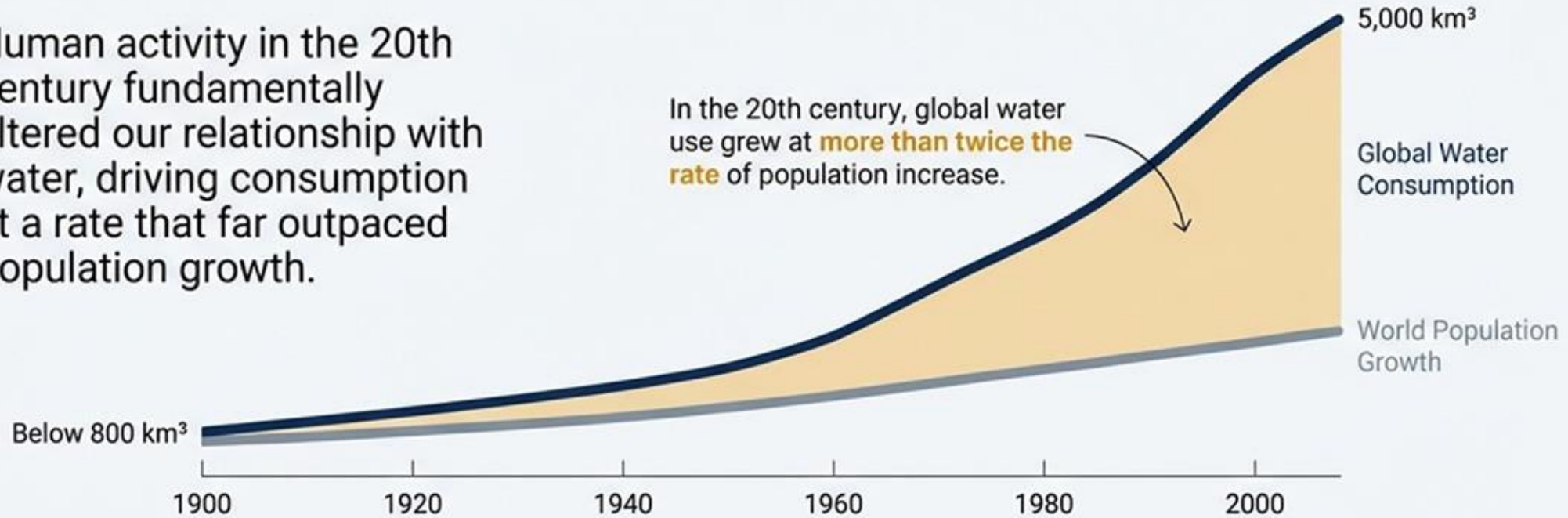
The most accessible freshwater comes from the 'water cycle,' which replenishes surface water through evaporation, precipitation, runoff, and infiltration.

Our perception of a water-rich world belies the physical reality of a very limited, precious resource.



# If Water is a Constant Cycle, Why is the Well Running Dry? Why is the Well Running Dry?

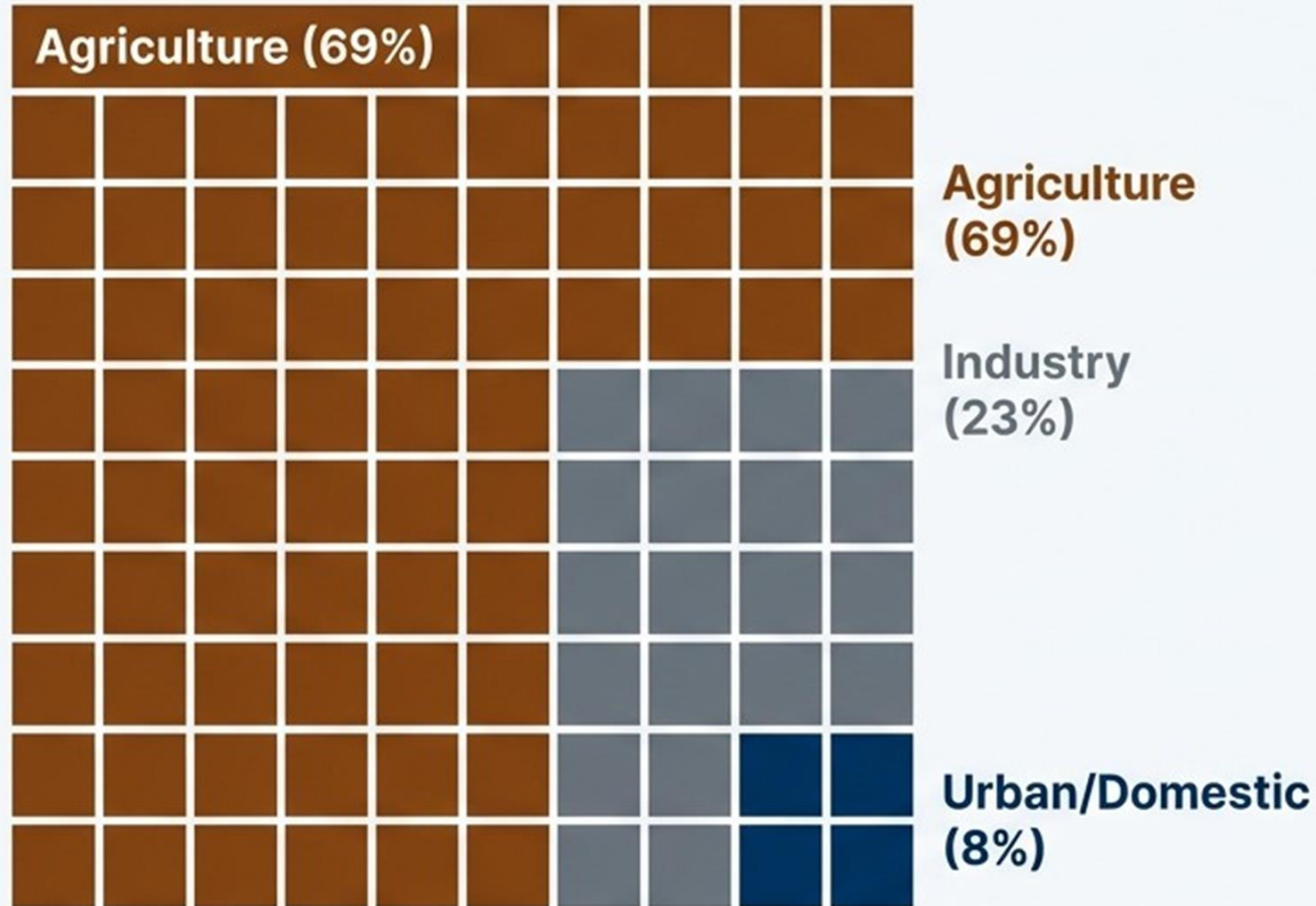
Human activity in the 20th century fundamentally altered our relationship with water, driving consumption at a rate that far outpaced population growth.



This exponential growth was driven by new economic and social models that place a massive demand on water for food, sanitation, domestic, industrial, and agricultural needs.

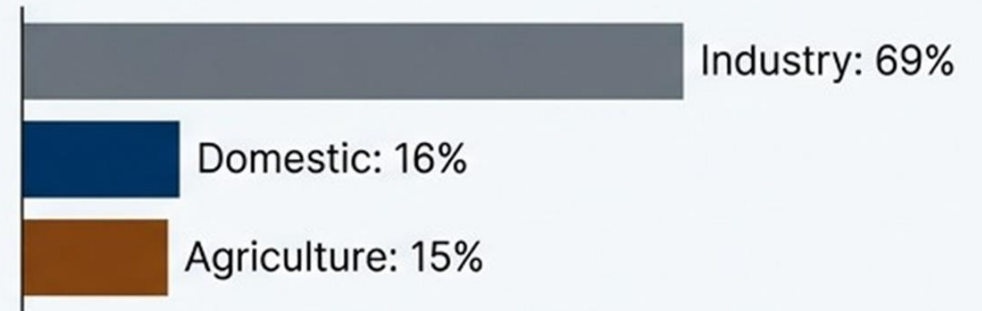
- Producing 1kg of wheat requires 500 liters of water.
- Producing 1kg of rice requires 2,000–4,000 liters.

# Where Does All The Water Go?



## Supporting Callouts

### France



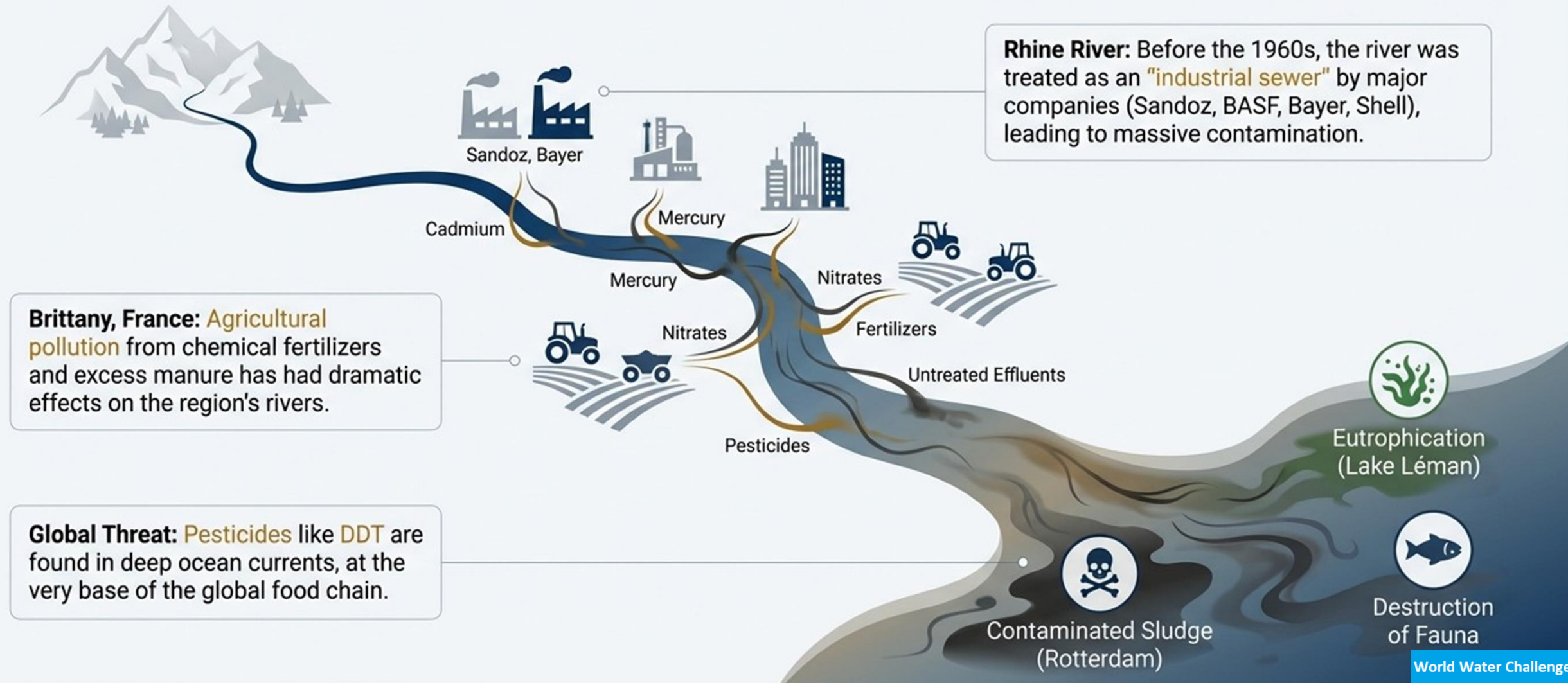
### Morocco



The differences are considerable, but globally, agriculture's share of nearly 70% of freshwater withdrawals makes it not a point of blame, but our **single greatest point of leverage**.

# The Quality Crisis: Turning a Resource into a Risk

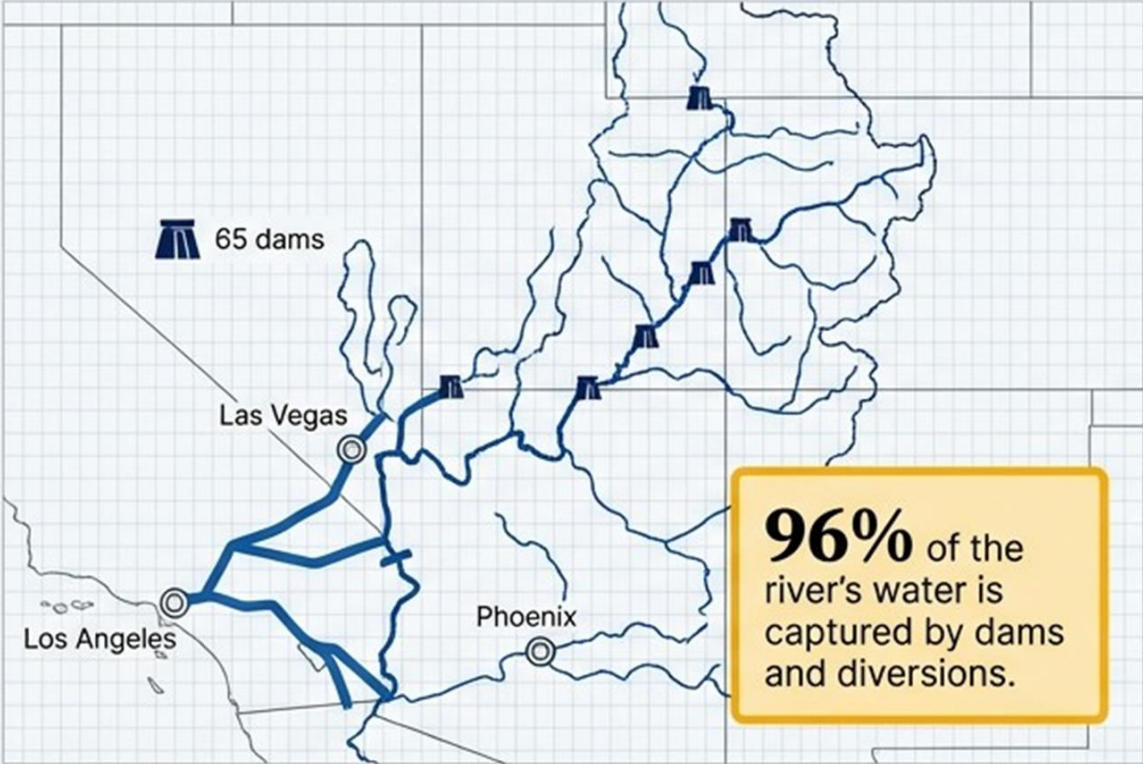
Industrialization and urbanization have turned many water systems into conduits for pollutants, reducing usable supply and creating severe environmental and health risks.



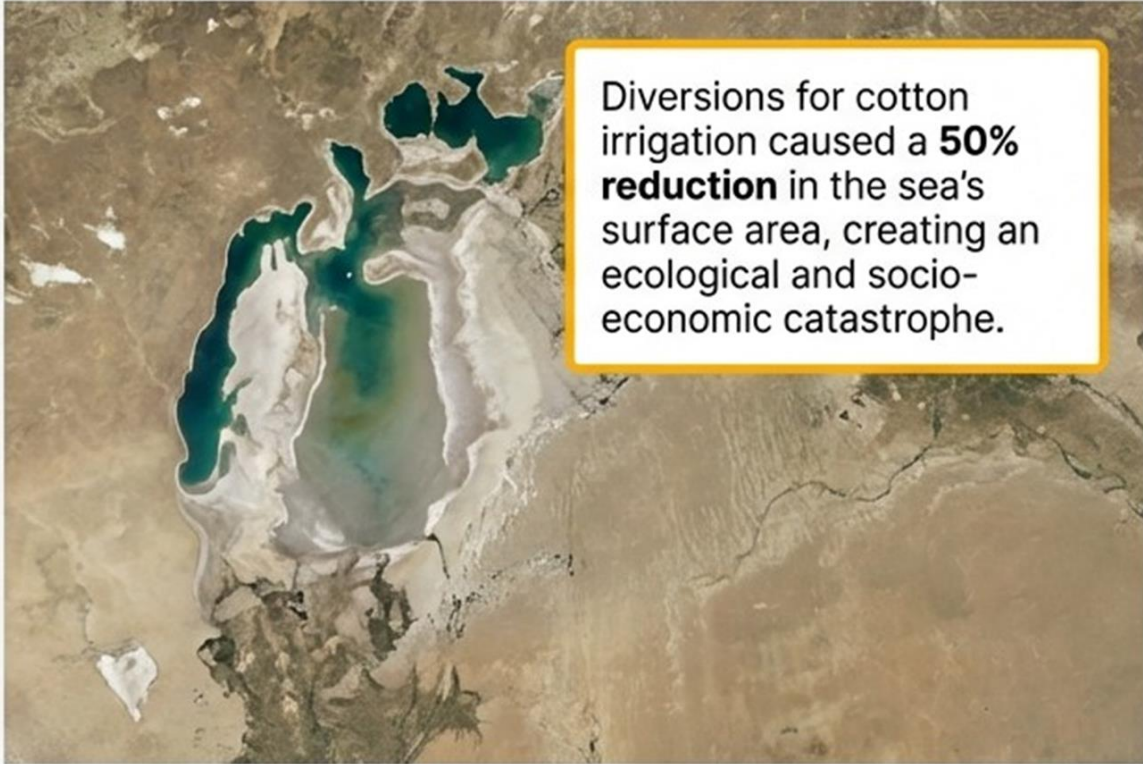
# The Engineering Paradox: Control at What Cost?

Our primary tools for managing water supply—dams, diversions, and large-scale projects—often create profound imbalances, solving one problem while creating another.

## THE PROMISE



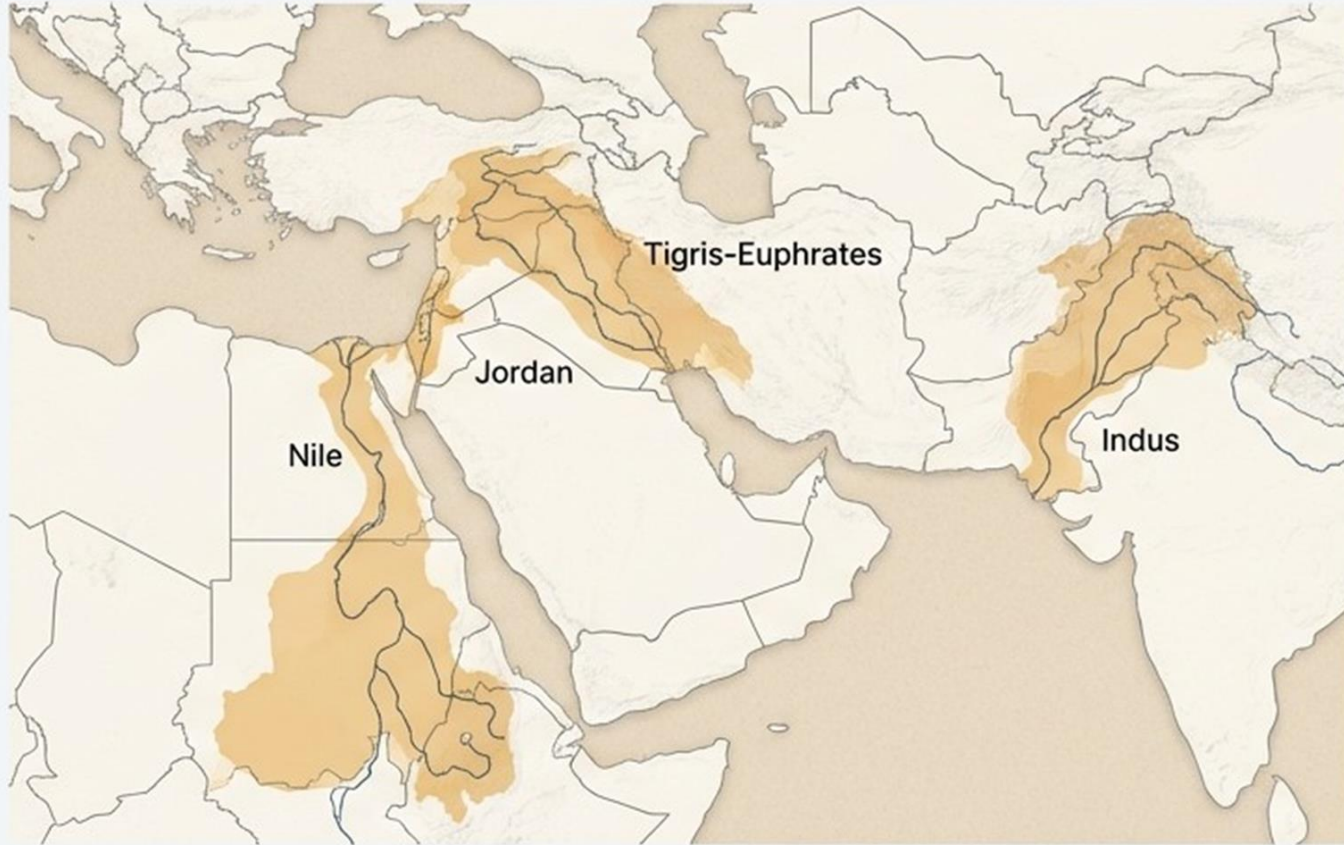
## THE PERIL



These projects create scarcity downstream and can cause irreversible environmental damage.

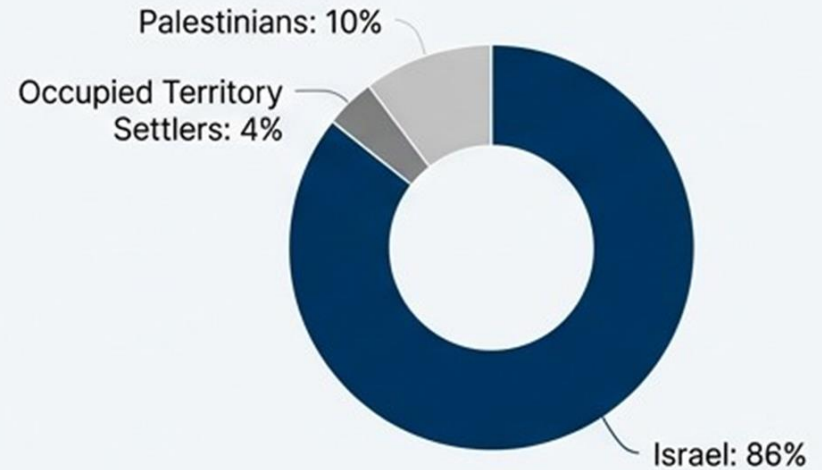
# Water as a Geostrategic Weapon

In arid regions, control over shared water resources is a primary driver of geopolitical tension and conflict, creating a zero-sum game between nations.



Deep Dive: Jordan Basin

**Israel, with 86% of the resources, has developed powerful irrigated agriculture, while Palestinian access is severely restricted.**



“Since 1967, the occupation of the Golan Heights, the West Bank, and Gaza gives Israel full latitude in the use of water.”

Water is the “Blue Gold,” a commodity to be controlled, creating power dynamics where upstream countries hold a strategic advantage over downstream neighbors.

# How Do We Recalibrate Our Relationship With Water?

Facing growing scarcity requires a shift from simply finding more water to fundamentally rethinking how we manage, value, and use it. This requires a coherent framework for action.



**Current State: Depletion & Conflict**



**Future State: Managed Equilibrium**

The Food and Agriculture Organization (FAO) provides a conceptual framework built on two core approaches: augmenting supply and managing demand. It is not about a single solution, but a portfolio of integrated strategies.

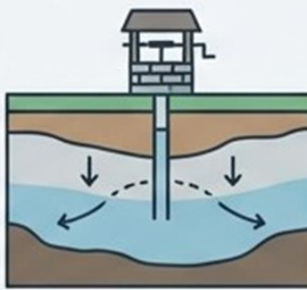
# Part 1: Augmenting Supply – The Limits of More

While we can increase available water through engineering and reuse, these options are often costly, environmentally challenging, and face diminishing returns.



### Conventional Sources

Building dams and reservoirs. Most suitable sites are already exploited; facing increasing economic, social, and environmental challenges.



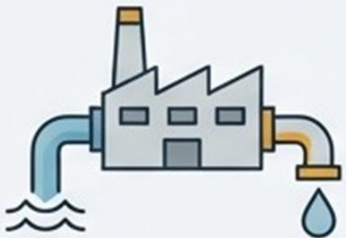
### Groundwater

Exponential increase in use has improved livelihoods but led to long-term aquifer depletion, pollution, and saltwater intrusion.



### Reuse & Recycling

Reuse of drainage and treated wastewater is a growing practice, vital in arid regions. About 20M hectares globally are irrigated with wastewater.



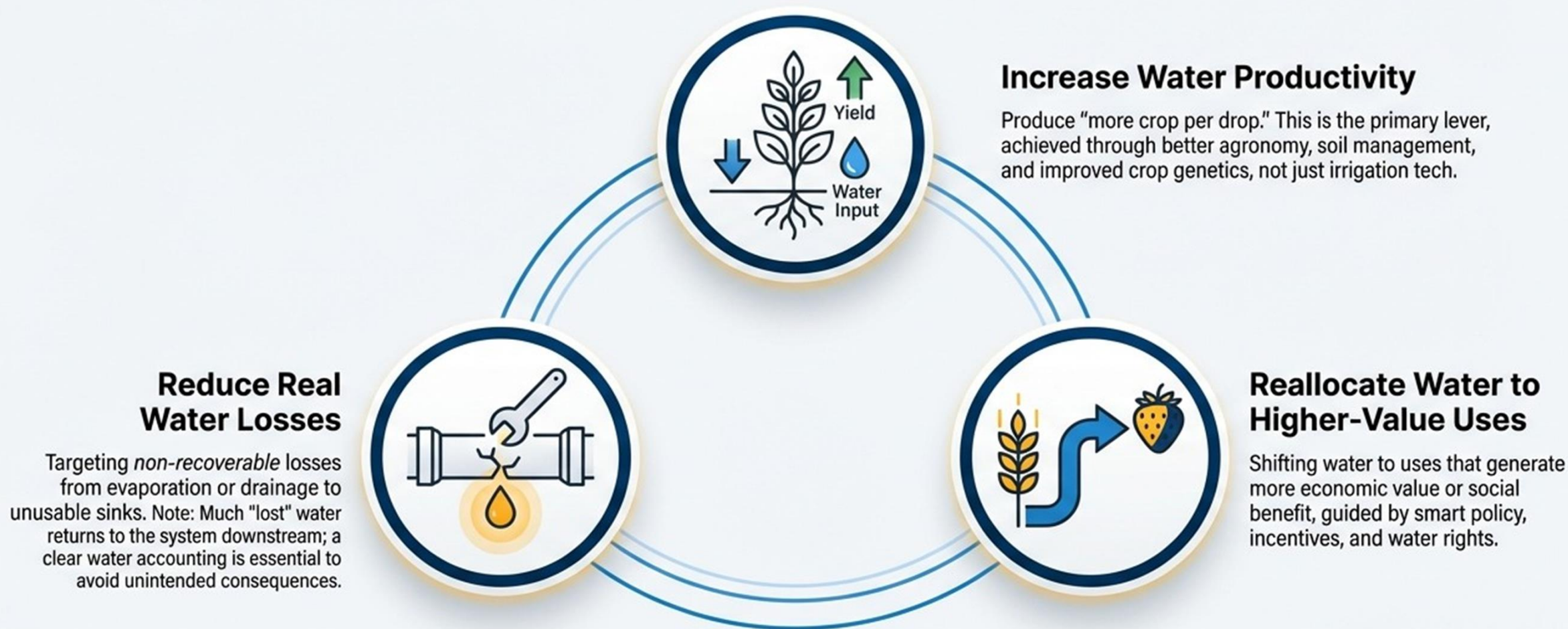
### Desalination & Transfers

High-cost options like desalination and inter-basin transfers are typically reserved for high-value urban or industrial uses, not broad-scale agriculture.

**Takeaway:** Supply-side solutions alone cannot close the growing gap.

# Part 2: Managing Demand – The Power of Smarter Use

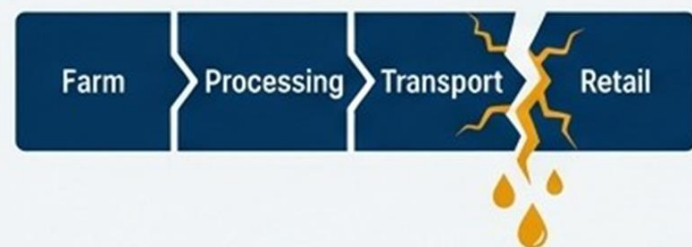
The greatest potential for achieving water balance lies in managing demand—using the water we already have more productively and intelligently.



# Solutions Beyond the Water Sector

Addressing water scarcity effectively requires looking at the entire value chain, from food waste to global trade patterns.

## Reduce Post-Harvest Losses



Losses and waste occur along the entire food chain and are estimated to be up to **50%** of production in developed countries.

## Embrace “Virtual Water” Trade



Importing food is importing water. Trade allows countries to achieve food security without depleting their own scarce water resources by sourcing from regions where water productivity is higher.

## Consider Dietary Shifts



The rising consumption of meat and dairy increases overall water demand, as their production requires substantial water volumes. Shifting diets can reduce a society's total water footprint.

# Six Principles for a Water-Secure Future

A sustainable path forward is not about a single silver-bullet solution, but about adhering to a set of core principles that guide effective and equitable action.



## KNOWLEDGE

Base strategies on a clear understanding of the water balance. Good data and transparent accounting are non-negotiable.



## IMPACT

Evaluate the full range of costs and benefits—economic, social, and environmental—to avoid unintended consequences.



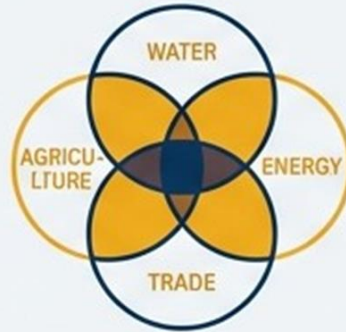
## CAPACITY

Invest in robust governance and strong institutions. Scarcity demands better rules, roles, and enforcement.



## CONTEXT

Adapt measures to local conditions. There is no one-size-fits-all solution; strategies must fit the agro-climatic and socio-economic reality.



## COHERENCE

Align water policy with agriculture, energy, trade, and food security policies to ensure they are mutually reinforcing.



## ANTICIPATION

Plan for change. Use adaptive management and scenario planning to build robust strategies that can evolve with future uncertainties like climate change.

**The choice is not whether to act, but how. These principles provide the foundation for building a balanced and resilient water future.**

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ «ПРИБОР-ЭКСПЕРТ»  
Per. № РОСС RU.31578.04OLNO от 16.11.2016 г.



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№ РОСС RU.МЛ10.Н08456

Срок действия с 26.09.2025 по 25.09.2028

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**НА ОСНОВАНИИ**

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**ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ**

Схема сертификации: Ic



Руководитель органа

Эксперт

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Исполн. обязан

А.В. Накутин

Исполн. обязан

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Per. No. POCC RU.31578.04OLNO dated November 16, 2016.



**CERTIFICATE OF CONFORMITY**

№ РОСС RU.МЛ10.Н08456

Valid from September 26, 2025

by 25.09.2028

№ 0057630

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Product certification body: Eri-test LLC. Address: 143009, Russia, Moscow Region, Odintsovo Urban District, Odintsovo, Lyuba Novoselova Boulevard, Building 6A, Floor 4, Office 25. Phone: +7 4997030100. email: eri-t@yandex.ru.

**PRODUCTS:** Methodology for calculating oil resources in hydrocarbon deposits using geophysical data using remote geophysical methods of geological exploration and field geophysical equipment "Poisk". Serial release.

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COMPLIES WITH THE REQUIREMENTS OF REGULATORY DOCUMENTS

code TR VED

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**BASED ON**

Test Protocol No. 001/L-26/09/25 dated September 26, 2025, issued by the Test Laboratory "Test Control" (certificate ROCC RU.31578.04OLNO. L36)



**ADDITIONAL INFORMATION**

Certification scheme: Ic

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**POISK**

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# VERSATILITY OF APPLICATION



## HYDROCARBONS

Oil  
Gas  
Condensed



## PRECIOUS METALS AND BASES

Gold  
Copper  
Lithium  
Nickel



## STRATEGIC

Uranium  
Diamonds  
Coal



## WATER RESOURCES

Drinking Water  
Underground  
Geothermal

The technology eliminates false positives by identifying the specific type of mineral.



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