

This country profile was compiled by the OECD Secretariat and reflects information available as of March 2015. Further information and analysis can be found in the publication: OECD (2015) *Water Resources Allocation: Sharing Risks and Opportunities*, OECD Studies on Water, OECD Publishing. Country profiles for all of the 37 allocation regimes in 27 OECD and key partner countries surveyed for this project are available for download at: <http://www.oecd.org/fr/publications/water-resources-allocation-9789264229631-en.htm>.

HUNGARY

Overview and highlights

In Hungary, one of the important allocation regimes is the Tisza–Körös Valley Management System (TIKEVIR), which is abundant in water resources. The ground water and surface water are publicly owned. There will be a change in the institutional structure of the water management in Hungary from January 2014.

Key characteristics of the prevailing allocation regime in Tisza–Körös Valley include:

- The TIKEVIR system consists of natural water courses and multipurpose infrastructure. It was originally developed to provide irrigation water, with the additional benefit of hydropower generation. In the last 20 years, recreational uses and nature conservation have had a limiting effect on the use of the water resources;
- Irrigation is the major water user (82% of mean annual inflow/recharge);
- Water resources are considered neither over-allocated nor over-used;
- Water entitlements are unbundled from property titles and granted to individuals;
- If the entitlement is not used in a given period, it will remain in place for the period it is issued for;
- It is not possible to obtain a new entitlement or to increase the size of an existing entitlement;
- Abstraction charges apply to agriculture, domestic, industrial, energy production and hydropower. The charges are differentiated according to the type of water user and reflect scarcity, as the charges paid for the use of a scarce source of water (such as thermal groundwater) can be 7 times higher than for the use of surface water;
- During episodes of scarcity, the Regional Water Directorate has the authority to reduce the allocations according to a pre-defined priority of uses.

Legal and institutional setting for water allocation

Institution	Scale	Main Responsibilities
Ministry of Interior	National	Policy
National Water Authority (OVH)	National	Secondary water authority
Regional Water Authorities	Provincial/State/Regional	First instance water authority, enforcement,
Regional Water Directorates	Provincial/State/Regional	Monitoring (quantity)

Legal context for water allocation: Roman/ Statutory Law.

Legal definition of ownership of water resources: Ground water and surface water are publicly owned.

Tracking water scarcity

A mapping exercise has been undertaken to identify areas where the scarcity of ground water and surface water is becoming a problem: "[River Basin Management Plan of Hungary](#)" (Annexes of Chapter 5) 2010.¹

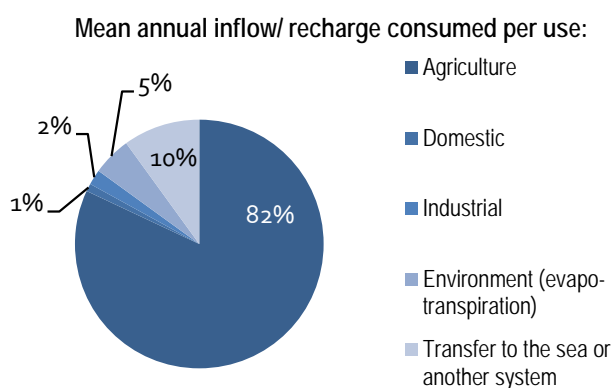
Allocation Regime Example: Tisza–Körös Valley Management System (TIKEVIR)

Physical features of the water resource

The Tisza–Körös Valley Management System (TIKEVIR) is a system of natural watercourses, dams, sluice gates, inter-basin diversion canals transferring and distributing water resources of the Tisza–Körös rivers over an area of 15 000 km². The original purpose of the system was to provide irrigation water with the additional benefit of hydropower generation. In the last 20 years, recreational uses and nature conservation have had a limiting effect on the use of the water resources. The average inflow to the system is 680 m³/s, while the summer low flow is 157 m³/s. The permitted intake from the Tisza is 114 m³/s, although the actual annual average intake is about 25 m³/s.

The **flow rate is managed or controlled** to some extent, as water systems are partially regulated.

There is **significant non-consumptive use** for hydropower generation at 3 stations.



Defining the available resource pool

Are limits defined on consumptive use? Yes.

- The volume of water that can be abstracted is defined and linked to the guiding document "Guidelines on the re-allocation of water resources of the Tisza valley (2000)", prepared by the National Water Directorate (OVF).

Are environmental-flows clearly defined? Yes.

- There is an overall definition, and a set of estimated diversion/extraction limits for surface and ground water bodies. The estimation is based on the measured or calculated base flow.
- Freshwater biodiversity is taken into account in a few watercourses and based on biological monitoring. Terrestrial biodiversity is also taken into account by considering the estimated amount of groundwater outflow (e.g. spring discharges, upward seepage) or the base flow which is necessary for surface and groundwater dependent ecosystems.

Are there arrangements to deal with impacts of climate change? No.

What is the status of resource pool? Neither over-allocated nor over-used.

¹ In Hungarian.

Factors taken into account in the definition of the available resource pool		
Factor	Taken into account?	If taken into account, how?
Non-consumptive uses (e.g. navigation, hydroelectricity)	✓	By ensuring minimum acceptable flow including e-flows.
Base flow requirements	✓	By ensuring minimum acceptable flow including e-flows.
Return flows (how much water should be returned to the resource pool, after use)	✓	
Inter-annual and inter-seasonal variability	✓	A limiting factor in the definition of the available resource pool is 80% of the summer low flow for the duration of the season.
Connectivity with other water bodies	✓	By ensuring minimum required release for downstream uses and environmental flows.
Climate change	✓	The availability of water resources are recalculated every 10-15 years.

Entitlements to use water	
Definition of entitlements	Characteristics of entitlements
<p>Are entitlements legally defined? Yes.</p> <p>Are private entitlements defined? Yes, as an individual entitlement (to an individual person).</p> <p>Nature of entitlement: Water entitlements unbundled from property titles. Defined as both the purpose that water may be used for and the maximum volume that may be taken in a nominated period are specified in the entitlements.</p> <p>Period granted for: A term of a given number of years without expectation of periodic renewal.</p> <p>Return flow obligations: Specified as a minimum quantity.</p>	<p>If the entitlement is not used in a given period, it will remain in place for the period it is issued for.</p> <p>Are entitlements differentiated based on the level of security of supply (or risk of shortage)? Yes. In the case of a drought or water shortage, lower priority entitlements are restricted sooner than the high priority entitlements.</p> <p>Is there a possibility to trade, lease or transfer entitlements? No.</p> <p>Are allocations (the amount that can be taken at any point in time) managed separately from entitlements? Yes.</p> <p>Is allocation trading allowed? No.</p> <p>Can entitlements function as a financial instrument? No.</p>
<p>Type of users not required to hold a water entitlement to abstract water: Small scale users. Total water uses related to these groups of users account for 5%. No measures taken to control the adverse impacts of any increase in these uses.</p> <p>Is it possible to obtain a new entitlement or to increase the size of an existing entitlement? Yes, conditional on existing user(s) forgoing use.</p>	

Abstraction charges				
	User category	Abstraction charge?	Basis for charge	Reflects water scarcity?
	Agriculture	✓	Volumetric	✓
	Domestic	✓		✓

Industrial	✓	Volumetric	✓
Energy production (not including hydro power)	✓	Volumetric	✓
Hydro power	✓	Volumetric	✓

How pricing arrangements reflect scarcity: The abstraction charges are differentiated according to the type of use and type of water (e.g. surface water, bank filtered water, thermal water, medical water). The charges paid for the use of a scarce source of water (such as thermal groundwater) can be 7 times higher than for the use of surface water.

Dealing with exceptional circumstances

Distinction between the allocation regimes used in “normal” and extreme/severe water shortage times? Yes.

How is the amount of water made available for allocation adjusted:

In case of “exceptional” circumstances water intakes are limited according to a pre-defined water restriction scheme that is based on the water use priority classes as defined in the Hungarian Water Management Law.

Definition of “exceptional” circumstances: Inflowing discharges related to specific sections of the Tisza and Körös Rivers are below a specified threshold set in the Operational Regulation. Stakeholders are not involved.

Legal bodies declaring the onset of “exceptional” circumstances: Regional Water Directorate. This organisation takes measure in case of “exceptional” circumstances by reducing the allocations according to a pre-defined priority of uses.

Pre-defined priority classes



Monitoring and enforcement

Responsible authority: Regional Water Directorate.

Types of withdrawals monitored: Withdrawals from all categories of users are monitored (agriculture, domestic, industrial, energy production, environment, transfer to the sea or another system and uses related to national security, such as the protection of infrastructure and critical dikes, nuclear plants).

Monitoring mechanisms:

- In agriculture, environment and transfer to the sea or another system: metering or self-estimation.
- In domestic, industrial, energy production and national security (e.g. protection of infrastructure and critical dikes, nuclear plants: metering.

Sanctions: Fines.

Conflict resolution mechanisms? No.