

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>.

DENMARK

Overview and highlights

Denmark has abundant water resources. However, climate change, economic development and environmental improvement have driven recent on-going water reform. In 2013, the Danish law was amended in order to allow water law to become more operational in accordance with the EU Water Framework Directive. Reforms include changes to the organisation of the water supply and sanitation sector as well as legislative changes to make it easier to finance climate change adaptation projects related to water.

Key characteristics of the prevailing allocation regime in Denmark include:

- A uniform allocation regime for all 4 river basins and 23 sub-basins;
- The use of water is regulated through a system of permission. All use of water (surface and groundwater) require permission from a public authority;
- One hundred per cent of the drinking water is obtained from ground water;
- Water entitlements are defined as riparian rights and granted to either individual or collective users. Collective entitlements are allocated among different users via informal trading;
- An entitlement that has not being used in a given period can be lost (e.g. "use it or lose it");
- Water users do not pay abstraction charges and pricing instruments do not reflect water scarcity;
- Episodes of scarcity are extremely rare. Municipalities have the authority to determine how to respond to these conditions and stakeholders do not participate in the process.

Legal and institutional setting for water allocation

Institution	Scale	Main Responsibilities
Ministry for the Environment	National	Policy, laws and legislation
National Agency of Nature	National	Planning and monitoring

Legal context for water allocation: Common Law.

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

Tracking water scarcity

No mapping exercise has been done to identify areas where water scarcity is becoming a problem. Episodes of scarcity are extremely rare in Denmark.

Allocation Regime Example: Denmark's 4 river basins, with 23 sub-river basins (national scale)

Physical features of the water resource

Denmark consists of 4 river basin districts and 23 sub-river basin districts. There is only one allocation regime and, hence, regulation within these basins districts is the same across the country.

There is around 750 mm of rainfall per year. One hundred per cent of the drinking water is obtained from ground water. Surface water (mostly rivers and lakes) interact with ground water when water penetrates through the soil.

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

Defining the available resource pool

Are limits defined on consumptive use? Yes.

- There are restrictions on who can abstract water, but no limit on how much water can be abstracted. The definition of the limit on consumptive use is not linked to any public planning document.

Are environmental-flows clearly defined? Yes.

- They are defined as a limitation on base flow (liter/second) in rivers. Other flows also consider freshwater or terrestrial biodiversity.

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

Are there arrangements to deal with impacts of climate change? Yes.

- All municipalities are required to produce risk-based plans, explaining how to cope with changes in climate impacting on water resources.

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)		
Base flow requirements	✓	Limitations of the base flow in rivers, etc..
Return flows (how much water should be returned to the resource pool, after use)		
Inter-annual and inter-seasonal variability	✓	Limitations of the base flow in rivers during summer time.
Connectivity with other water bodies		
Climate change	✓	As background data on water balance in future planning instruments.

Entitlements to use water

Definition of entitlements	Characteristics of entitlements
<p>Are entitlements legally defined? Yes. Use of water in Denmark is regulated through a permission system. All use of water (from river banks, from ground water, etc.) requires permission from the responsible authority. Entitlements are defined by the purpose for which water may be used and by the maximum volume that may be taken in a given period.</p> <p>Are private entitlements defined? Yes. Property owners are entitled to use the ground water on their property for drinking purposes when the property is far away from a public water supply. However, in general, groundwater is considered a public utility and permission is required to abstract water. In the case of collective entitlements, the process for allocating water among individual users within a group of users is done through informal trading.</p> <p>Nature of entitlement: Riparian entitlements. The entitlements are defined by the purpose that the water may be used for and the maximum volume that may be taken in a given period.</p> <p>Period granted for: a term of a given number of years without expectation of renewal.</p> <p>Return flow obligations: not specified.</p>	<p>If the entitlement is not used in a given period, the entitlement will be lost (e.g. "use it or lose it").</p> <p>Are entitlements differentiated based on the level of security of supply (or risk of shortage)? Yes. Local authorities will consider level of security of supply when giving a permit to abstract ground water.</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? No.</p> <p>Is allocation trading allowed? n/a.</p> <p>Can entitlements function as a financial instrument? n/a.</p>
<p>Type of users not required to hold a water entitlement to abstract water: none.</p> <p>Requirements to obtain a new entitlement or to increase the size of an existing entitlement: conditional on an environmental impact assessment (EIA) and existing user(s) forgoing use.</p>	

Abstraction charges

Water users do not pay abstraction charges and pricing instruments do not reflect water scarcity.

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: water resources do not vary much over time, therefore, no significant adjustments need to be made.

Definition of “exceptional” circumstances: n/a.

Legal bodies declaring the onset of “exceptional” circumstances: municipalities. They can prohibit abstraction of ground water for all uses other than drinking. Stakeholders are not involved in this process.

Pre-defined priority classes



Monitoring and enforcement

n/a.