

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>.

UNITED KINGDOM

Overview and highlights

There is a single abstraction system in England and Wales, which includes a variety of water resources from heavily managed rivers to small streams. The droughts of the 1990s showed that existing legislation did not enable adequate management of water resources and protection of the environment. The Water Act 2003 made significant changes to the licensing system, which included a move toward time limited licences and the development of Catchment Abstraction Management Strategies (CAMS), among other key measures. The UK Government is committed to further reforms of the water abstraction management system in England to address a number of existing shortcomings of the system. The Water White Paper (December 2011) set out the proposed direction, principles and process for reform. Key Environment Agency publications set out the case for change.¹ The UK Government and Welsh Government undertook a joint consultation on reform proposals in December 2013. The consultation closed in March 2014. Following a review of the responses and further consideration, each Government will then make its final decisions on the need for, scope and timing of reform in England and Wales respectively.

Key characteristics of the prevailing allocation system in England and Wales can be found in the Environment Agency document [‘Managing Water Abstraction’](#), and include:

- Water resources are considered as both over-allocated and over-used. Significant measures are underway to restore sustainable abstraction, including a process to buy back some of the water use licences;
- Public water supply is the dominant influence, with very little irrigation (accounts for less than 2% of licensed use). However, in some areas (East and South England), irrigation demand is very intensive and at certain times of year, can be as much as demand for public water supply;
- If the entitlement is not used in a given period, it can be revoked (e.g. “use it or lose it”). Some licenses (e.g. for hydropower) have a “self-destruct” period, after which, if not exercised, the licence is no longer valid. In other cases, after a period of 4 years, the licence can be revoked, unless a “reasonable need” can be demonstrated;
- Licences can vary in terms of the level of security of supply (or risk of shortage), depending on when licences were issued and local conditions. Some licences include conditions such as hands off flows or hands off levels, which are thresholds at which abstractors have to stop abstracting. Other licences include seasonal conditions;
- Abstraction is charged in agriculture, domestic and public water supply, industrial and energy production. The charges are metered and reflect scarcity, as the costs vary for the size of the licence, how consumptive it is, the source of supply and when, in the year, the licence can operate;
- During episodes of scarcity, the Environment Agency can apply to restrict or ban abstraction to protect the environment, and water companies also have a variety of powers to address the scarcity;
- The Environment Agency uses a risk-based system for enforcement, using the following criteria: type of water use, potential to cheat and the licensee’s past record.

¹ Key Environment Agency documents are available here: <https://www.gov.uk/government/policies/reforming-the-water-industry-to-increase-competition-and-protect-the-environment/supporting-pages/protecting-our-water-sources-the-future-of-abstraction-reform>.

Legal and institutional setting for water allocation

| Institution | Scale | Main Responsibilities |
|--|--------------------|--|
| Department for Environment, Food and National Rural Affairs | National (England) | Water Policy |
| Welsh Government | National (Wales) | Water Policy |
| Environment Agency | National (England) | Environmental regulator and delivery body. This involves planning, assessing water availability, issuing licences (entitlements), monitoring abstraction, and enforcement. |
| Natural Resources Wales | National (England) | Environmental regulator and delivery body. This involves planning, assessing water availability, issuing licences (entitlements), monitoring abstraction, and enforcement. |
| Legal context for water allocation: Common Law and Roman/ Statutory Law | | |
| Legal definition of ownership of water resources: Water is not owned as such but land adjacent to it or overlying it is, so ownership is not legally defined in that sense. Anyone can take water subject to having permission and access. What is regulated is access to water and protection for those who take or use water, e.g. protected rights and third party rights to sue abstractors for damage. | | |

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: prepared for every catchment² and [Water stressed areas – final classification](#). The CAMS are updated on a risk based rolling program basis.

² Please refer to: www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process.

Allocation Example: Abstraction Licensing System in England and Wales

Physical features of the water resource

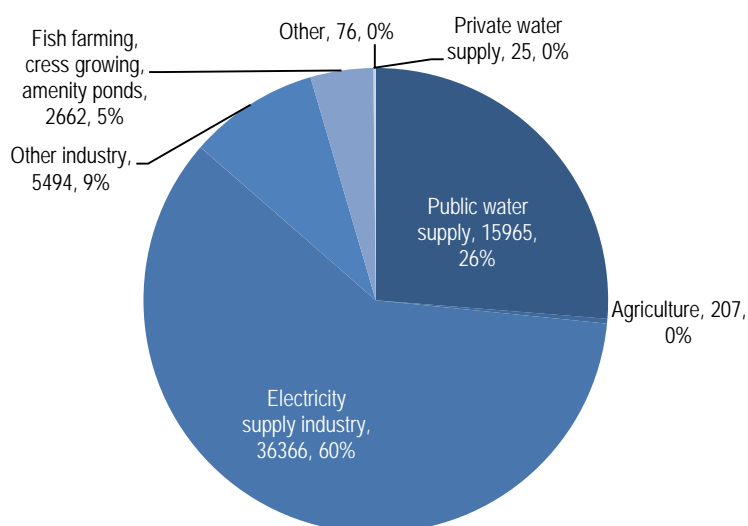
This abstraction licensing system applies to surface water and groundwater all across England and Wales. This includes a wide range of different water resources, from heavily managed rivers such as the Dee or the Severn, to chalk streams such as the Hampshire Avon. It also applies to a range of aquifers from big sandstone aquifers with a significant lag between abstraction and resulting level changes, to more responsive chalk aquifers that react more quickly to abstraction.

Depending on the particular location, the **flow rate is managed or controlled** either fully, partially, or not at all.

There is **significant non-consumptive use**; this water is licensed for a variety of uses such as hydropower generation and fish farming.

Estimated actual abstraction from all surface and groundwater sources in 2012

(expressed by use in Ml/d and as a percentage of total)



* Environment (evapo-transpiration) and Transfer to the sea or another system are not accounted for in this way.

Defining the available resource pool

Are limits defined on consumptive use? Yes.

- There is a limit in the volume of water that can be abstracted, which is linked to a river basin management plan, prepared by the Environmental Agency/Natural Resources Wales. CAMS sets out the process applied to licenses and can be appealed. However, the overall limit is defined by a river basin management plan, which is signed by a Minister and has legal force as such.

Are environmental flows clearly defined? Yes.

- Environmental Flow Indicators (EFI) are used as an indicator of the flows required by the environment. The EFI is a percentage deviation from the natural river flow represented using a flow duration curve.³
- Both freshwater and terrestrial biodiversity are taken into account. The EFI is used in the hydrological classification for the European Water Framework Directive (WFD) to identify the water bodies where reduced river flows may be causing or contributing to a failure of good ecological status.

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

- The CAMS process includes an ongoing assessment of water availability and the application of regulatory tools to address issues. This approach, however, has its limitations and the abstraction reform seeks to introduce a more adaptive and flexible system.

What is the status of resource pool? Over-allocated or over-used.

³ http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/LIT_7935_811630.pdf.

- **Measures to address over-allocation or over-use:** There are four main measures for restoring sustainable abstraction. Firstly, if your licence is causing, or may potentially cause, environmental damage, the Environmental Agency/Natural Resources Wales may need to change or modify your licence. Secondly, to create sustainable catchments, both organisations are working closely with partners such as water companies, licence holders, businesses and environmental groups, through local environmental protection activities and national programmes. Thirdly, they have investigated about 1000 WFD water bodies in England to identify if abstraction is impacting ecology. Lastly, they are using a catchment-based approach to solutions for water bodies where reduced water flow may be causing problems under the European WFD.

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) | ✓ | Non consumptive uses are included in the abstraction management system and require a licence (their right to abstract is protected). |
| Base flow requirements | ✓ | As part of environmental standards. |
| Return flows (how much water should be returned to the resource pool, after use) | ✓ | Some abstractors have a duty to return a certain proportion of the water they abstract. Others are simply regulated by purpose and would need a new licence if their purpose changed and they discharge a different quantity back. |
| Inter-annual and inter-seasonal variability | ✓ | Environmental standards take into account inter-seasonal activity. As do seasonal licences. Inter-annual variability can be taken into account via time limited licences. |
| Connectivity with other water bodies | ✓ | Taken into account through the CAMS process. |
| Climate change | ✓ | Taken into account through the water resources planning process and through the use of time limits. However, many existing licences are not flexible enough to take climate change into account. |

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 or business etc) and as a collective entitlement to an institution representing water users (e.g. WUAs) or another (perhaps informal) community-based arrangement. In the case of collective entitlements, water is allocated among individual users through a bargaining process or informal trading.</p> <p>Nature of entitlement: Water entitlements can be defined as the purpose that water may be used for and the maximum volume that may be taken in a given period. Entitlements can also be defined according to the time of year water can be taken. Entitlements can be unbundled from property titles, riparian entitlements and defined by a system of prior appropriation, where reliability is a function of the year when the entitlement was first issued.</p> | <p>If the entitlement is not used in a given period, it can be revoked (e.g. "use it or lose it"). Some licenses (e.g. for hydropower) have a "self-destruct" period, after which, if not exercised, the license in no longer valid. In other cases, after a period of 4 years, the license can be revoked, unless a "reasonable need" can be demonstrated.</p> <p>Are entitlements differentiated based on the level of security of supply (or risk of shortage)? Yes, depending on when licences were issued and local conditions. Some licences include conditions such as hands off flows or hands off levels, which are thresholds at which abstractors have to stop abstracting. Other licences include seasonal conditions.</p> <p>Is there a possibility to trade, lease or transfer entitlements? Yes. If you are buying or selling rights to abstract water, you will need to make an application and seek an approval from The Environment Agency/Natural Resources Wales to receive a new license or to vary an existing one.⁴ Restriction may apply.⁵</p> |

⁴ For further information, see: <http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0711btzk-e-e.pdf>.

| | |
|---|--|
| <p>Period granted for: A term of up to 12 years, linked to cyclical reviews of water availability in a catchment, with the expectation of periodic renewal. In cases where the license cannot be renewed or will need to be modified, a period of 6 years advance notice is given when possible.</p> <p>Return flow obligations: Specified. Some abstractors are required to return a proportion of the water they take. Others are restricted to a certain purpose, which practically restricts how much they can consume.</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? No.</p> <p>Can entitlements function as a financial instrument? Yes. A licence can be sold and therefore has a financial value. It can also add value to a business that depends on water and therefore add value to the sale of a business.</p> |
| <p>Type of users not required to hold a water entitlement to abstract water: Abstractors who take less than 20m³/d from surface or ground water, which has small adverse impacts. Also, the following range of sectors are currently exempt: dewatering of mines, quarries and engineering works, water transfers into canals and internal drainage districts, water used for trickle irrigation and abstractors in some geographical areas. Total water uses related to the abstractors who take less than 20m³/d account for less than 1%. Reliable estimates of the percentages of the exempt sectors are not available. To control the adverse impacts by the exempt sectors, they will be brought into the abstraction system shortly.</p> <p>Requirements to obtain a new entitlement or to increase the size of an existing entitlement: It depends on the catchment, and some catchments are even closed. Requirements may include the assessment of third party impacts, environmental impact assessment (EIA) or existing user(s) forgoing use.</p> | |

Abstraction charges

| User category | Abstraction charge? | Basis for charge | Reflects water scarcity? |
|---|---------------------|--|--------------------------|
| Agriculture | ✓ | Metering | ✓ |
| Domestic | ✓ | Metering (but most of these would be <20m ³ /d so exempted) | ✓ |
| Industrial | ✓ | Metering | ✓ |
| Energy production (not including hydro power) | ✓ | Metering | ✓ |
| Hydro power | | Schemes of <5 megawatts | |

How pricing arrangements reflect scarcity: Pricing arrangements are in place primarily to recover costs of water management. However, costs vary for the size of the license and how consumptive the license is. They are also lower for abstractors who have licenses that only allow them to abstract in winter (when more water is available).⁶

Dealing with exceptional circumstances

⁵ There are restrictions on trading regarding the hydrological (surface water) or hydrogeological (groundwater) link between the seller's abstraction point and the buyer's proposed abstraction point, water availability in the CAMS, impact on the downstream, quantity of water traded, purpose of an abstraction, and the returning water to the environment.

⁶ A full guide to the charging approach is available at:

http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/LIT_7698_e25503.pdf.

Distinction between the allocation system used in “normal” and extreme/severe water shortage times? Yes. However, the system itself does not completely change (special powers come in during a drought that override abstraction licence conditions).

How is the amount of water made available for allocation adjusted? The amount of water available to existing licence holders varies according to the conditions on those licences. For example, those who are only able to abstract at certain times of the year will only be able to abstract for certain periods. Those who have hands off flows or hands off levels will only be able to abstract when flows or levels are above those thresholds. Also, drought powers operate separately and can override abstraction licence conditions. Lastly, the amount of water available for new abstractors or for additional abstractors wishing to increase their licence is determined by the CAMS process. This assesses water availability in relation to environmental requirements. Environmental requirements vary somewhat according to the time of year, prevailing flows, and any legally protected status.

Definition of “exceptional” circumstances: Across England, we apply the following three categories relating to drought. 1. Temporary use restrictions: Water company drought plans have required water companies to implement restrictions such as hosepipe bans to help conserve supplies. Farmers, other abstractors and the environment are also likely to be adversely affected. Groundwater stores will not be replenished by short-lived periods of rainfall. 2. Environmental stress due to rainfall deficit: Farmers, other abstractors and the environment are at risk of adverse effects from long-term, significantly below average rainfall. Rivers and lakes may show short term responses due to rainfall but groundwater stores remain in deficit. 3. Low groundwater: We class low groundwater as sites that are notably or exceptionally low for the time of year. Stakeholders are involved in the preparation of drought plans which set out the response to droughts.

Legal bodies declaring the onset of “exceptional” circumstances: Either the Environment Agency/Natural Resources Wales or Government Ministers grant legal permission to take further drought measures, in the form of drought orders or drought permits providing that the applicant demonstrates that there has been an exceptional shortage of rain. The further drought measures that can be taken are as follows: water companies can apply to abstract more water; water companies can apply to reduce other abstractions; water companies can apply to restrict certain types of water use; the Environment Agency/Natural Resources Wales can apply to restrict or ban abstraction to protect the environment.⁷

⁷ For further information, see: <http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0911budj-e-e.pdf>.

Monitoring and enforcement

Responsible authority: Environment Agency/Natural Resources Wales.

Types of withdrawals monitored: Agriculture, domestic, industrial, energy production, environment and national security (e.g. protection of infrastructure and critical dikes, nuclear plants).

Monitoring mechanisms: Metering. A risk-based system is used for enforcement, using the following criteria: type of water use, potential to cheat and the licensee's past record.

Sanctions: Criminal sanctions (warnings, formal cautions and prosecution, with fines up to £20,000 in magistrates court) and civil sanctions.⁸

Conflict resolution mechanisms? Yes. Enforcement action (specifically the imposition of a sanction) can normally be appealed either through the criminal court process or as a result of specific appeal provisions. Our notices set out the rights of appeal which apply in the specific circumstances of each sanction or provision.

⁸ A full guide to the approach for all abstractors is available at:

<http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho0412buni-e-e.pdf>.