

Executive summary

Water resources allocation determines who is able to use water resources, how, when and where. Findings from a recent OECD survey of the current allocation landscape across 27 OECD and key partner countries, a first of its kind, reveal that most allocation regimes have elements that can encourage a robust system, but operate with significant limitations. Most allocation regimes today are strongly conditioned by historical preferences and usage patterns, tracing their roots to previous decades or even centuries. They have often evolved in a piecemeal fashion over time and exhibit a high degree of path dependency, which manifests in laws and policies, and even in the design and operational rules of long-lived water infrastructures. This means that water use is often “locked-in” to uses that are no longer as valuable today as they were decades ago, curtailing the value (ecological, socio-cultural, or economic) that individuals and society obtain from water.

In essence, allocation is a means to manage the risk of shortage and to adjudicate between competing uses. Allocation arrangements consist of a combination of policies, laws, and mechanisms. Water is a complex resource, with distinctive features as an economic good usually enjoying a distinctive legal status managed under the Public Trust doctrine. Access to the resource is usually subject to usage rights (or “water entitlements”), rather than outright ownership of the resource (with a few exceptions, in particular in the case of groundwater).

Strongly shaped by historical preferences that have proved difficult to change, existing allocation regimes are usually not well-equipped to deal with mounting pressure on the resource from intensifying competition, climate change, or shifts in societal preferences, such as increasing value placed on water-related ecological services. In order to reap greater benefits from water resources, an allocation regime needs to have two key characteristics: it should be robust by performing well under both average and extreme conditions and demonstrate adaptive efficiency in order to adjust to changing conditions at least cost over time. The challenges for allocation regimes are aggravated by the entrenchment of weak water policies (under-pricing water or an absence of regulation on use), which contributes to structural water scarcity, increasing the risk of shortage for users and for the environment.

The results of the OECD survey of the current allocation landscape indicate that the building blocks of a robust regime already exist in many cases, but their design has significant limitations. For example, there can be ambiguity between various legal regimes governing access to water resources (e.g. customary rights versus rights designated in formal laws). This legal “pluralism” is a source of conflict among water users and increases the likelihood of “allocation by litigation” or “allocation by adjudication”, a costly and time-consuming process.

Adequate environmental flows are not secured in at least one-quarter of allocation regimes surveyed. Only 57% of allocation regimes surveyed report accounting for the potential impacts of climate change in their allocation arrangements, even though doing so is essential to ensure that allocation regimes can cope with changing conditions. Even less common are efforts to review shifting eco-hydrological baselines as climate conditions continue to alter the water cycle. A sequence of priority uses is clearly established in nearly all allocation regimes surveyed. This can be a practical approach to adjudicate among different types of users in times of shortage, but can also be the source of “lock-in”, which can make it difficult to manage tensions among various users and place the risk of shortage disproportionately on “low priority” users. Water for the environment is rarely among the highest priorities in times of shortage and often figures among the lowest.

While nearly all of the examples surveyed (92%) reported having a clear definition of the limit (or “cap”) on consumptive use, the cap may or may not be respected in practice. Only a few allocation regimes rely on flexible limits (as opposed to a fixed volume) defined in terms of the proportion of the resource that can be abstracted, thus reflecting variations in resource availability. There is clearly scope to broaden the application of abstraction charges. Given that abstraction charges tend to be low in most cases, increases in charges would improve cost recovery and provide a price signal to make low value and inefficient water uses less attractive. Most of the allocation regimes surveyed allow some form of trading, leasing or transferring water entitlements among users. However, a wide variety of conditions are placed on such transactions. These conditions can provide safeguards to minimise potential negative impacts, but also increase transaction costs and tend to limit the extent of trade that occurs in practice.

Recognising the potential for improving current allocation arrangements, 75% of countries covered in the OECD survey have recently reformed their allocation regimes and 62% have reforms ongoing. However, managing the transition from existing arrangements to an improved regime is often very contentious and can be costly. Evidence from case studies of allocation reform in 10 countries provides insight into the reform process and lessons on how some of the obstacles of reform can be overcome.

Concerns about water scarcity and insufficient water for ecosystems are often cited drivers of allocation reform. Broader political or structural reforms have provided imperatives to improve the efficiency of resource use and equity in allocation of water resources. Droughts can provide a salient, visible event to trigger action. The case studies on reform highlight the importance of determining a sustainable baseline (how much water is available for allocation) before making significant changes, like introducing trading. Failure to do so can result in costly efforts to claw back entitlements already granted. Willingness to engage stakeholders in the reform process and appropriately compensate potential “losers” (with financial transfers, permits to build storage structures) facilitates the process.

A periodic “health check” of current allocation arrangements can help to assess the achievement of reforms and areas for further improvement. The OECD *“Health Check” for Water Resources Allocation* can provide useful guidance for such a review. It is a tool designed to review current allocation arrangements to check whether the elements of a well-designed allocation regime are in place and to identify areas for potential improvement. In general, as the risk of shortage increases, the benefits of a more elaborate allocation regime increases. In the early stages of developing a water resource, or when the

risk of shortage is low, a relatively simple allocation regime can be used with decisions made conservatively to avoid over-allocation and over-use. The basic building blocks of a robust regime should still be put into place, which can allow for adjustment at least cost over time as needed.

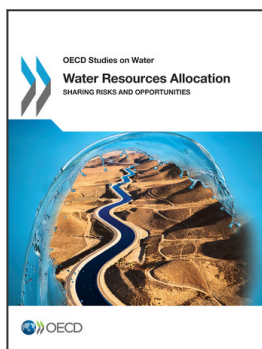
A well-designed allocation regime has multiple elements (discussed in detail in Chapter 5). A clear legal status should be in place for all types of water resources (surface and ground water, as well as alternative sources of supply) with competing claims clarified. A clear and enforceable abstraction limit (“cap”) should be in place that accounts for *in situ* requirements and sustainable use, including environmental needs. Clearly defined, legal, volumetric water entitlements are needed. Water pricing, typically in the form of abstraction charges, is a key element of a well-designed regime. Pricing can contribute to cost recovery, internalise negative externalities associated with water abstractions, and send a price signal to users to discourage inefficient and low-value water uses. Scarcity pricing could help to signal the scarcity value of the resource, but has proven difficult to implement to date.

Although reforming an allocation regime can be a challenging process, an improved allocation regime can greatly increase the value (ecological, socio-cultural, or economic) that individuals and society obtain from water resources today and in the future. A periodic “health check” can provide a pragmatic approach to help realise these benefits.

“Health Check” for Water Resources Allocation

- **Check 1.** Are there accountability mechanisms in place for the management of water allocation that are effective at a catchment or basin scale?
- **Check 2.** Is there a clear legal status for all water resources (surface and ground water and alternative sources of supply)?
- **Check 3.** Is the availability of water resources (surface water, groundwater and alternative sources of supply) and possible scarcity well-understood?
- **Check 4.** Is there an abstraction limit (“cap”) that reflects *in situ* requirements and sustainable use?
- **Check 5.** Is there an effective approach to enable efficient and fair management of the risk of shortage that ensures water for essential uses?
- **Check 6.** Are adequate arrangements in place for dealing with exceptional circumstances (such as drought or severe pollution events)?
- **Check 7.** Is there a process for dealing with new entrants and for increasing or varying existing entitlements?
- **Check 8.** Are there effective mechanisms for monitoring and enforcement, with clear and legally robust sanctions?
- **Check 9.** Are water infrastructures in place to store, treat and deliver water in order for the allocation regime to function effectively?
- **Check 10.** Is there policy coherence across sectors that affect water resources allocation?
- **Check 11.** Is there a clear legal definition of water entitlements?

- **Check 12.** Are appropriate abstraction charges in place for all users that reflect the impact of the abstraction on resource availability for other users and the environment?
- **Check 13.** Are obligations related to return flows and discharges properly specified and enforced?
- **Check 14.** Does the system allow water users to reallocate water among themselves to improve the allocative efficiency of the regime?



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