

6. Ensuring good water governance

This chapter presents progress made by Adherents with water governance, in line with the OECD Recommendation on Water and the OECD Principles on water governance. The chapter explores how Adherents allocate and distinguish roles and responsibilities, and manage water at the appropriate scale(s). It highlights how policy coherence and effective cross sectoral coordination can be arranged. It illustrates how capacity can be adjusted to the complexity of water challenges. It also explores the use of data and information to guide policy. It illustrates how to efficiently mobilise finance for water governance, while promoting innovative water governance practices and mainstreaming integrity and transparency. The chapter focuses on promoting stakeholders engagement, managing governance complexity and trade-offs. Finally, it describes monitoring and evaluating mechanisms for water policy and governance.

The Recommendation calls on Adherents to “enhance the effectiveness and efficiency of, and trust and engagement in, water governance, taking into account the specificities of governance for groundwater management”. Section 6 of the Recommendation reflects the [OECD Principles on Water Governance](#), welcomed by Ministers at the 2015 meeting of the Council at Ministerial level [C/MIN(2015)12].

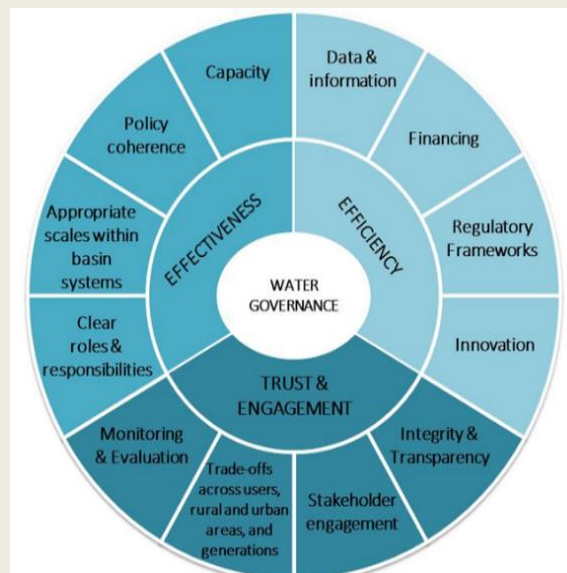
To support the implementation of section 6 of the Recommendation, three main actions have taken place. First, the OECD has provided translations of the Principles into 18 languages, all available online¹. Second, the RDPC and its Water Governance Initiative (WGI) have produced water governance indicators, composed of a self-assessment framework piloted in 11 cities, basins or countries and a Checklist. Third, 50+ water governance stories were collected and analysed as “evolving practices” to draw lessons and shape best practices.

Box 6.1. OECD Principles on Water Governance

The OECD Principles on Water Governance intend to contribute to tangible and outcome-oriented public policies, based on three mutually reinforcing and complementary dimensions of water governance (Figure 6.1):

- *Effectiveness* relates to the contribution of governance to define clear sustainable water policy goals and targets at all levels of government, to implement those policy goals, and to meet expected targets.
- *Efficiency* relates to the contribution of governance to maximise the benefits of sustainable water management and welfare at the least cost to society.
- *Trust and Engagement* relate to the contribution of governance to building public confidence and ensuring inclusiveness of stakeholders through democratic legitimacy and fairness for society at large.

Figure 6.1. Overview of OECD Principles on Water Governance

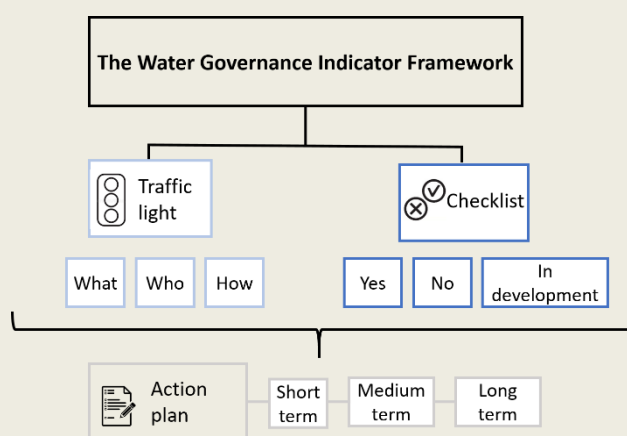


Source: *OECD Principles on Water Governance*, OECD, 2015. <https://www.oecd.org/cfe/regional-policy/OECD-Principles-on-Water-Governance.pdf>

To support the implementation of the OECD Water Governance Principles, three years after their adoption, two tools were developed Based on an extensive bottom up and multi-stakeholder process within the OECD Water Governance Initiative (WGI): a water governance indicator framework and a set of evolving practices for bench-learning, building on lessons learned from different countries and contexts.

The OECD Water Governance Indicator Framework aims support self-assessment at local, basin or national scale of governance frameworks (what), institutions (who) and instruments (how), and their needed improvements over time. The OECD Water Governance Indicator Framework (Figure 6.2) is composed of a Traffic light system of 36 water governance indicators (input and process) and a Checklist of 100+ questions. Its use results in the design of an Action Plan to improve water governance over the short, medium and long run. The Framework was pilot-tested by institutions at different scales and in different geographic and socio-economic contexts: **Austria, Cabo Verde, Peru, Scotland, United Kingdom, Netherlands, Peru, Spain, Morocco, Malaysia, Spain, Colombia and Democratic Republic of Congo.**

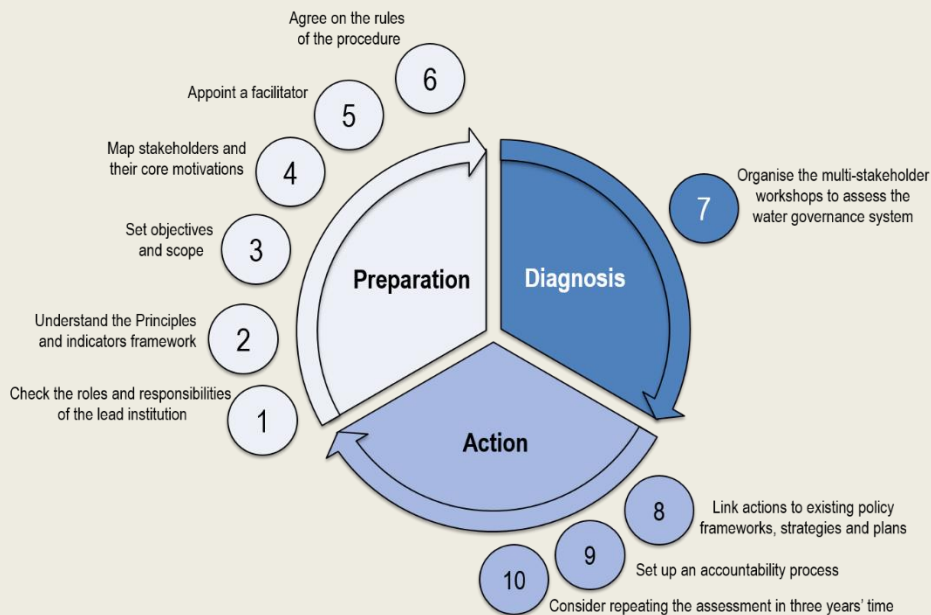
Figure 6.2. The OECD Water Governance Indicator Framework



Source: (OECD, 2018^[1])

The ten-step assessment (Figure 6.3) provides guidance for carrying out the self-assessment in the preparation phase, during the assessment (diagnosis) and after the assessment (actions). The self-assessment is a tool for dialogue among stakeholders to understand whether existing water institutions, policies and governance instruments are performing well or need adjustments. The self-assessment should occur through multi-stakeholder workshops to assess the water governance system against the traffic light and the checklist, and design the Action Plan. The action phase consists of linking actions with existing policy frameworks, strategies and plans; setting up an accountability process to track progress over time and keeping the dialogue alive; and considering repeating the self-assessment every three years (OECD, 2018^[1]).

Figure 6.3. A ten-step assessment framework



Source: (OECD, 2018^[1])

The 54 *Evolving practices* help policy makers, practitioners and other stakeholders learn from each other and identify pitfalls to avoid when designing and implementing water policies. They were collected to provide examples and lessons that can inspire ambitious reforms and better policies and practices. At least 70% of the examples relate to “water resources” and “sanitation and water quality”, close to 60% of the practices deal with “drinking water supply” and around 30% are associated with “water-related disasters”. Most of the examples (45 evolving practices) refer to multiple water functions. The evolving practices cover the five continents (America, Africa, Asia, Europe, Oceania) with more than half (52%) of the practices from the European Union (Figure 6.4).

Figure 6.4. Map of the pilots and evolving practices



Source: The OECD Water Indicator Framework, OECD, 2019. <https://www.oecd.org/cfe/regional-policy/oecd-water-governance-indicator-framework.htm>

6.1. Clearly allocate and distinguish roles and responsibilities

The Recommendation asks Adherents to “clearly allocate and distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster coordination across these responsible authorities”.

In all Adherents, regardless of constitutional and institutional settings, water management is fragmented across multiple actors and sectors.

Many Adherents have engaged important reforms to coordinate and/or clarify roles and responsibilities. For instance, **Ireland** implemented a water governance reform that gives distinct responsibilities to three different tiers of government. In the first tier, the Department of Housing, Planning and Local Government is in charge of water policy and legislation; in the second, the Environmental Protection Agency is responsible for scientific research and responses, then reporting the evidence to other agencies; in the third, local authorities are in charge of local implementation and public engagement (OECD, 2018^[1]). A multi-level governance approach based on sound coordination mechanisms can also minimise misalignments, complexity and overlaps for specific water functions. For instance, the Joint Flood Commission in **France** brings together the Steering Council for major natural risks prevention and the National Water Committee to co-ordinate flood management across levels of government and stakeholders from civil and environmental protection, urban planning and land-use (OECD, 2019^[2]). In **Poland**, the Water Law of 2017 introduced a new structure for water administration bodies. Starting in 2018, the State Water Holding 'Polish Waters' is in charge of water management, with water resource decisions devolved to 11 Regional Water Management Authorities (which are regional units of Polish Water), and the responsibility to apply 50 water basin units and 330 water inspections (the most disaggregated entities of Polish Water).²

The multiplicity of actors varies according to the area of water policy considered. For example, in **Mexico**, municipalities are responsible for providing water and sanitation directly or indirectly. They can also delegate responsibility to private operators or utilities owned and operated by the state government. In the **Netherlands**, there are 21 regional water authorities that manage regional water systems to maintain water levels, water quality and wastewater treatment. These regional water authorities are decentralised public authorities that are endowed with specific legal personality and financial resources (OECD, 2014^[3]). Additionally, the Administrative Agreement on Water Affairs signed in 2011 in the **Netherlands** between the Ministry of Infrastructure and Water Management, regional water authorities, drinking water companies, provinces and municipalities, aimed to foster efficiency gains across the water chain up to EUR 750 million per year until 2020 through improved collaboration and reallocation of roles and responsibilities (OECD, 2015^[4]).

Decentralisation of water policies in the past decades has resulted in allocating increasingly complex and resource-intensive competences to subnational governments. According to the 2016 OECD Survey across 48 cities³, in terms of policymaking, the role of local governments compared to other subnational actors is definitely predominant for drainage (67%), drinking water supply (56%), water security (56%) and sewage collection (52%). With no exception across water functions, the majority of cities indicated that local governments are the main actors providing information and carrying out monitoring and evaluation. This is particularly true for drinking water supply (58%). Compared to the responses attributed to central governments and to other subnational governments, the highest share of responses was attributed to local governments for financing related to drainage (58%); water security and drinking water (48%); sewage collection (46%); and wastewater treatment (40%) (OECD, 2016^[5]).

6.2. Manage water at the appropriate scale(s)

The Recommendation asks Adherents to “manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales”.

Water is a field particularly sensitive to issues of scale. Water logics and hydrological boundaries cut across administrative frontiers and perimeters. Water services and resources management take place at various spatial scales, both in their ecological and political dimensions.

In the **European Union**, the 2000 Water Framework Directive (WFD) emphasises the importance of management at the basin scale and the introduction of River Basin Districts, designated not according to administrative or political boundaries, but according to the spatial catchment area of the river as a natural geographical and hydrological unit. To implement the WFD, most EU member states have set up or strengthened dedicated river basin organisations, which in some cases have long existed, as in **France** (6 water agencies⁴). In **Spain**, river basin councils “*confederaciones hidrográficas*”, are deconcentrated authorities of the Ministry for the Ecologic Transition and the Demographic Challenge with the responsibility to manage river basins shared by more than one autonomous region. In addition, each basin counts with a council in which the governments of the autonomous regions participate. The river basin councils discuss river basin plans prepared by the “*confederaciones hidrográficas*” before their adoption by the Council of Ministers following consultation of the National Water Council (OECD, 2015^[4]). There are also other key bodies that complete the water governance system in each river basin district such as the Committees of Competent Authorities and the Water Councils. The **Netherlands**’ approach to the WFD relies on seven basin level bodies governed by administrators in the provinces, regional water authorities and municipalities. These authorities, responsible for organising public participation, established “feedback groups” comprised of representatives of both interest groups and landowners, to reflect and comment on the river basin management plans at the appropriate scale. Individual water boards were also set up to discuss regional goals and measures under an advisory status (OECD, 2014^[3]). In **Germany**, the *Länder* are mainly responsible for the implementation of water legislation, and generally delegate many practical tasks of water management to local administrative bodies. They have to build consensus about shared river basins, namely in the process of preparing river basin plans. In some cases, like in the Ruhr River basin, there are users’ associations with delegated powers promoting a consistent basin approach. The framework legislation on water corresponds to the federal level (*Bundestag*, federal government), however with several areas open for specific regulations by the *Länder*. The legal situation is often described as “competing legislation”. The federal government is also responsible for international conventions on transboundary rivers (such as the Rhine, the Danube, the Odra or the Elbe) (OECD, 2015^[4]). Basin level governance in other regions is equally as important.

Other Adherents, such as **Austria**, which counts three large transboundary river basins, alternatively approached basin governance, following instead a catchment-oriented governance to ensure co-ordination and co-operation at the basin level. The Austrian Water Act entrusts the Federal Ministry as the lead institution to design and implement river basin and flood risk management plans. The different actions that feature in the programme of measures are assigned to the authority according to the scale of intervention (OECD, 2018^[1]).

Mexico has also been a pioneer among Latin American Adherents in river basin governance; the country first developed river basin commissions in the 1940s as the first implementing agencies of water-based development plans in the country. After the 1992 National Water Law, Mexico created 13 different river basin organisations based on regional hydrology. Thus, policies are implemented in accordance with the needs of each hydrographic region as implemented by the appropriate river basin organisation (OECD, 2013^[6]).

Groundwater management is often an area where decentralised decisions will be the most effective. For instance, the **US State of Nebraska**, which was able to manage groundwater based irrigation effectively,

relies on local management policies set up by Natural Resource Districts (OECD, 2015^[7]). The **US States of Kansas and Texas** have also relied on similar local agencies, named Groundwater Management Districts (GMDs) and Groundwater Conservation Districts (GCDs), respectively (Ibid.).

A scale-sensitive governance approach can also minimise misalignments, complexity and overlaps for specific water functions. Specifically, river basin organisations or catchment-oriented institutions have an important role to play as intermediaries for inter-municipal or regional flood cooperation as exemplified by the work of river committees in Wallonia (**Belgium**) and the expansion of the scope of municipal flood management in **France** (OECD, 2019^[2]).

6.3. Encourage policy coherence and effective cross-sectoral co-ordination

The Recommendation asks Adherents to “encourage policy coherence through effective cross-sectoral co-ordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use”.

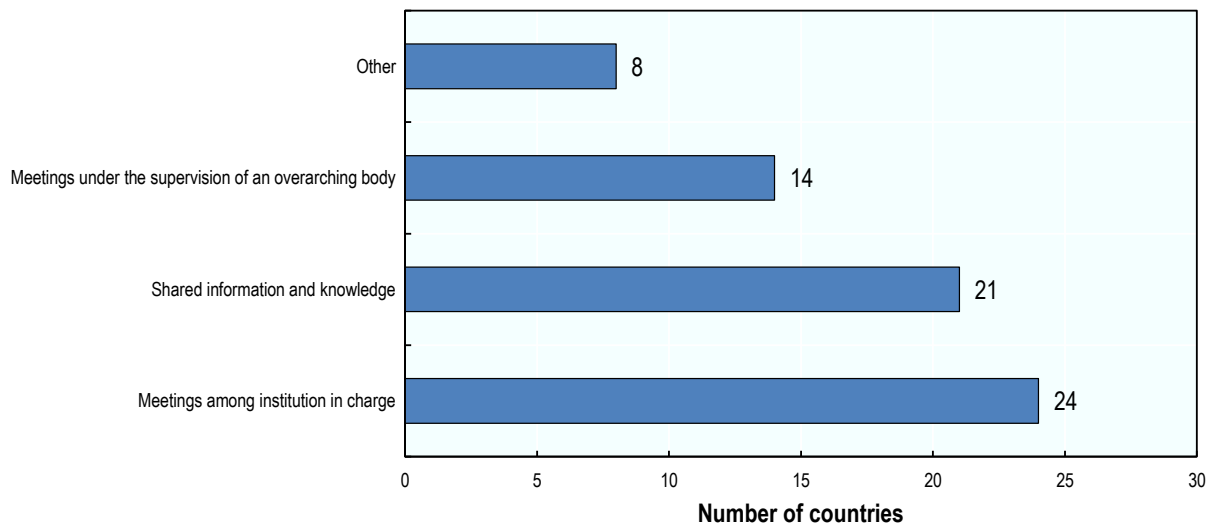
Policies in areas such as energy, agriculture, land use, territorial development, health, public works/infrastructure, economy and finance can have a significant impact on the economic, social and environmental sustainability of the water sector, which requires effective horizontal coordination and policy coherence. However, in practice, because of the sectoral fragmentation of water-related tasks across ministries and public agencies, policy makers constantly face conflicting objectives and the temptation of retreating into silo approaches.

Policy coherence is essential if governments wish to meet the range of sectoral policy goals without undermining the sustainability of the water resource base. Better water governance is critical to fostering inter-institutional mechanisms for horizontal co-ordination and encouraging synergies and complementarities between different policy fields related to water. Most Adherents have made important efforts to co-ordinate water with other policy areas, especially spatial planning, regional development, agriculture and energy; and to enhance integrated national strategic planning. For example, the 2018 integrated Environmental Planning Act in the **Netherlands** replaced and superseded all strategic plans, and was jointly developed by the central government and provinces to better align spatial planning, the environment, water, landscape, agriculture, cultural heritage and energy infrastructure. In **Portugal**, the long-term National Energy Strategy is jointly prepared by Ministry of Economy and the Ministry of the Environment and Land Use Planning; in **France**, the master plans of development and water management (*Schéma directeur d'aménagement et de gestion des eaux*, SDAGE) facilitate the co-ordination of hydropower operations and conservation of aquatic environments (OECD, 2015^[4]). They are also legally binding for a large number of sectoral development plans such as the *Plan local d'urbanisme*, the *Schéma de cohérence territoriale*. In **Ireland**, co-ordinating committees ensure policy coherence across national authorities responsible for water, environmental and agricultural policies. In addition, the Water Policy Advisory Committee established in 2014 is chaired by the Department of Housing, Planning and Local Government, but also involves the Department of Agriculture, Food and the Marine to coordinate with the Rural Development Programme (OECD, 2018^[1]). In **Korea**, in accordance with the Framework Act on Water Management, the Presidential Water Commission, involving heads of 8 ministries related to water management including the Ministry of Environment, fostered policy coherence and cross-sectoral coordination (Republic of Korea, 2020^[8]).

In recent years, particular engagements have been taken and efforts have been undertaken to coordinate water and agriculture policies. In 2017 agriculture ministers of the G20 committed to actions to improve the use of water in agriculture, including to encourage the coherence of their policies in this area (Gruère, Ashley and Cadilhon, 2018^[9]). The same year the European Commission reinitiated efforts to coordinate efforts on water and agriculture via the Taskforce on water and agriculture, considering progress to be made on both policy sides, organising three thematic workshops, setting a knowledge hub on agriculture

and water, and developing a tool for better nutrient management at farm levels. The 2019 Implementation Survey also revealed that 21 respondents had made efforts to improve the coherence of agriculture and water policies (Figure 6.5).⁵

Figure 6.5. Coherence between water management and other sectoral plans



Note: Responses to the question: “How does your country ensure coherence between water management and other sectoral plans such as agriculture, land use and urban development, or energy?”. Multiple responses were possible.

Source: 2019 survey on the implementation of the OECD Council Recommendation on Water; 27 responses received, including 26 Adherents.

Achieving policy complementarities means fostering an overall strategic approach across water policies and those related to them. For instance, in **Mexico**, the National Water Commission (CONAGUA)’s Technical Council is in charge of co-ordinating water policies and defining common strategies across multiple ministries and agencies (SEMARNAT; SEDESOL; Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food [SAGARPA]; Treasury; Energy; CONAFOR; and IMTA) (OECD, 2015^[4]). **France** created the Inter-ministerial Committee for Sustainable Development by decree in 2003. This committee gathers annually and consists of the ministers responsible for interior affairs, social affairs, employment, foreign affairs, European affairs, defence, youth, education, research, economy, finances, industry, transport, housing, tourism, health, agriculture, culture, state reform, territorial development, cities and local communities, sports and overseas territories. The committee prepares an annual evaluation report on the implementation of the strategy and actions plans (OECD, 2015^[4]).

6.4. Adapt the level of capacity to the complexity of water challenges

The Recommendation asks Adherents to “adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties.”

The development of skills, technical expertise and knowledge and the availability of staff and time are preconditions for effective governance of water policy. In particular, in a context of decentralisation of water policy, governments face a fundamental question whether the sub-national level is ready or sufficiently mature to assume responsibilities associated with devoted or decentralised tasks. Any mismatch between the capacity needed to shoulder water responsibilities, and the organisational, technical, procedural, networking and infrastructure capacity of responsible authorities, will bear consequences for the

implementation of national water policies. Institutional strengthening and capacity building at all levels are crucial for future-proof water policies.

To tackle issues related to capacity gaps, Flanders (**Belgium**) started to conduct water scans of local administrations as one of the key elements of their projects for a rational water use in buildings as a stepping stone towards water wise cities aiming to achieve a 30% reduction of water consumption. The project is driving a structural reform to adapt the competence profiles of technicians to the capacity gaps identified in the local administration (OECD, 2018_[1]). In **Ireland**, as a response to capacity challenges for policy implementation at the local level, the creation of a Catchment Management and Science Unit strengthened the knowledge base for river basin management and helped target resources appropriately (OECD, 2018_[1]). In 2017, in **Australia**, the Council of Australian Governments (CoAG) published training modules of the National Water Initiative (NWI) on 'Considering climate change and extreme events in water planning and management' and 'Engaging Indigenous peoples in water planning and management'. Reviews of the NWI are required to assess progress against NWI objectives and commitments. The most recent review acknowledged the importance of maintaining the momentum where capacity is building in water reform, particularly in areas of urban water, Indigenous water interests, and management of environmental water (OECD, 2019_[10]).

In the water sector, capacity building concerns both “hard” and “soft” capacity. There is a growing awareness that facilities, resources and inputs alone will not lead to lasting improvements in water governance performance. The typical “hard” capacities generally focused on facilities, equipment and infrastructure need to complement “soft” capacities that concern management knowledge and skills and well as social expertise and skills such as facilitation, integrity, effective coordination and communication. Soft capacity building has been a focus of **Austria**, where professional associations promote the education and training of water professionals, institutions and stakeholders at large. In **Ireland**, it is the responsibility of the Environmental Protection Agency to provide support and advice to local authorities, through the Network for Ireland's Environmental Compliance and Enforcement (NIECE). This is a complex task as the EPA also has responsibility to supervise the environmental enforcement activities of local authorities (OECD, 2018_[1]).

According to the OECD Survey on “Scoping Existing Capacity Development Activities” amongst members of the OECD Water Governance Initiative, most respondents (72%) are already using some parts or the whole set of the Principles on Water Governance as part of ongoing activities related to capacity development, whether governance works as an independent module or integrated in others. However, there is little available information on the long-term impact of capacity development on the improvement of water governance outcomes overall. Moreover, the lack of funding represents a major obstacle for carrying out capacity development on a more consistent basis.

6.5. Use data and information to guide policy

The Recommendation asks Adherents to “produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.”

Improving water governance requires hydrological, technical, social, economic and financial data (i.e. water-related quantifiable and qualitative facts) and information (i.e. interpreted data related to water). Production and access to consistent, comparable and easily accessible information is essential to analyse every situation objectively and devise water strategies to improve policy performance in terms of economic efficiency, equity and environmental sustainability. Many Adherents have set up integrated water information systems and databases as **Spain** (an open access national database includes the information of the 25 RBMP⁶), **Portugal** (National Water Resources Information System [SNIRH]), **Australia** (Water Resources Information System [AWRIS]), and **France** (national system of water information - SISPEA)

(OECD, 2018^[1]). The Spanish water sector is going through a digital transformation process to improve the quality of the water-related data and information. It is expected to allow linking new technologies (i.e. IA, deep learning, big data) with advanced operation processes, including production (basin, waste water treatment plant and groundwater), transport and drinking water supply and sewerage networks. The digital transformation process is expected to include all the stakeholders simultaneously: different levels of government officials, the private sector, regulators, service providers, other relevant constituencies and the population who should be able to perceive the final result of that end-to-end data governance model.

Within the reporting and compliance approach of the **European Union** Water Framework Directive, the Water Information System (WISE) provides a web-portal entry to water-related information ranging from inland waters to marine, grouped into the following sections: EU water policies, data and themes, modelling and projects and research. The WISE is based on a partnership between the European Commission (DG Environment, Joint Research Centre and Eurostat) and the European Environment Agency, known as “the Group of Four” (Go4). It was launched for public use in 2007 (OECD, 2015^[4]).

Relevant data on water resources and water services is the basis for tailored water governance strategies, measurement of results and indications of possible bottlenecks. Central governments may not find it easy to promote and assess water resources and service strategies without obtaining information from sub-national governments. For example, in **Mexico**, nine states agreed to develop an information system on water quantity (availability and coverage) and quality for the various river basins and sub-basins in their region in 2004 (OECD, 2013^[6]).

Production and exchange of information is also vital to building trust and a shared vision among responsible authorities and stakeholders. National statistical offices have a key role in generating such data and/or providing the harmonisation of metrics to allow comparability across units and time. Sub-national levels of government and regional/local development agencies also have an important role to play in collecting and using data to inform the water policy process. In 2013, **Turkey** created an online National Water Information System (NWIS) that compiles nationwide data on water quality and quantity, allocation regimes and water-related risks. The NWIS shows water data at basin level and aims to encourage all water-related actors to be active stakeholders in data production. Furthermore, the NWIS helps identify data gaps and duplications and gather data, maps, statistics and policy documents under nine modules: environmental infrastructure, basin management, climate change, groundwater, surface water, water quality, drought, floods and water allocation (OECD, 2018^[1]). **Ireland** has followed a tiered approach to characterisation, which has resulted in structured data and scientific evidence at national, catchment area (46), sub-catchment (583) and water body (4 829) levels. The data are all gathered into one new IT application called the Water Framework Directive (WFD) Application, operated by the Irish Environmental Protection Agency, and all public bodies involved in water management and protection in Ireland have access to it (OECD, 2018^[1]). In **Israel**, a new tariff established for industries producing effluents with a high concentration of pollutants has encouraged the development of a high-tech information system for water quality. When the tariff was set in 2011 technologies used for monitoring those effluents improved significantly. The new online measuring systems provide useful information that guides water services management, such as forecast changes in water consumption, quasi-real time leakage detection, etc. As a result, municipal water and sewage corporations have improved the quality of the water services delivered (water leakages have decreased from approximately 30% ten years ago to a national average of less than 11%) (OECD, 2018^[1]). This kind of information is crucial for stakeholders to continue improving water service, as well as an effective system for monitoring, early warning, and decision support in the water sector governance, as well as a protection against extreme events.

6.6. Mobilise water finance efficiently

The Recommendation asks Adherents to “ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent and timely manner.”

Insufficient or unstable revenues in the water sector are an important obstacle to the effective implementation of water policies in Adherents.

Coordination across levels of government is necessary to map, align and catalyse funding needs. For example, national water strategies do not always have specific rules on how to finance water.

A number of country examples provide valuable insights to enhance multi-level governance and planning in response to funding needs. For instance, in **Canada**, under the Water Act agreements, several levels of governments share the financial burden of water-related projects: agreements for specific water programmes provide for the participating governments to contribute funding, information and expertise in agreed ratios. For ongoing activities, such as the water quantity survey agreements with each province, cost-sharing is in accordance with each party’s need for the data. For study and planning agreements, it is usual for the federal government to meet half the costs and the provincial government the other half. The planning studies encompass interprovincial, international or other basins where federal interests are important. Implementation of planning recommendations occurs on a federal, provincial and federal-provincial basis. Cost-sharing of the construction of major infrastructure works is generally jointly funded by federal, provincial and municipal local governments (OECD, 2015^[4]).

Aligning multi-annual strategic plans to annual budgets and medium-term priorities of governments helps the continuity of water policies even cutting across political cycles. In **Portugal**, the six-year strategic plans guided the implementation of the country’s water services public policy and were concomitant with EU funding under the umbrella of the Cohesion Funds and other EU programmes. The plan and its revisions every six years have followed a similar structure to ensure consistency (OECD, 2018^[1]).

6.7. Implement and enforce water regulation

The Recommendation asks Adherents to “ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.”

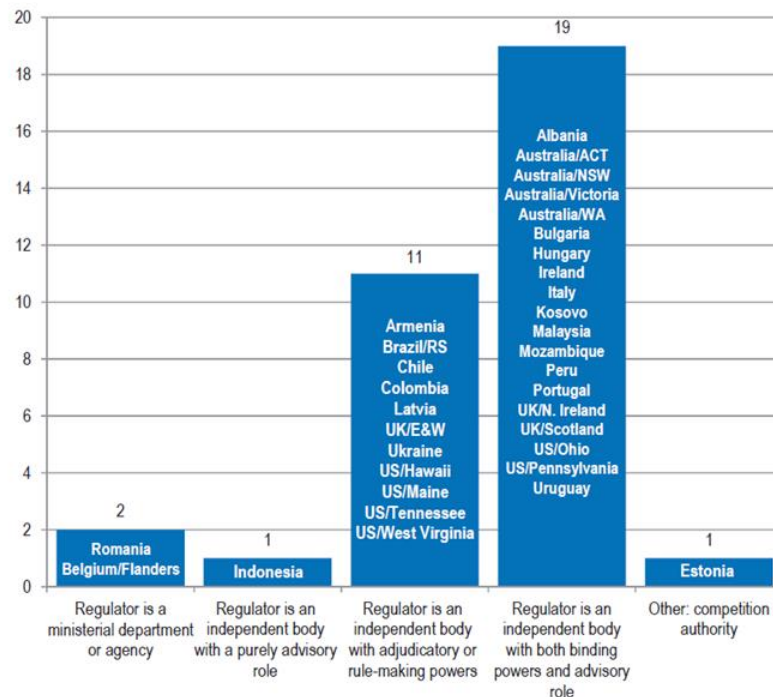
Comprehensive, coherent and predictable regulatory frameworks founded on effective regulatory policies and institutions are essential for setting the rules, standards and guidelines to achieve water policy outcomes. Sound regulation serves to ensure that economies function efficiently while meeting important social and environmental goals. It also builds public trust in the administration as an effective rule maker.

Adherents have adopted different types of regulatory frameworks to ensure the performance of various regulatory functions in relation to water services. Aside from self-regulation, major regulatory models include (OECD, 2009): regulation by government; regulation by contract, which specifies the regulatory regimes in legal instruments (the French model); independent regulation (Anglo-American model); and the outsourcing of regulatory functions to third parties, which makes use of external contractors to perform activities such as tariff reviews, benchmarking and dispute resolution.

The third model – the establishment of dedicated regulatory bodies for water and sanitation services (WWS) – stands out across Adherents as a response to some of the challenges of regulatory frameworks for water services (Figure 6.6). It has also accompanied the reform of the water industry that many Adherents have undergone over the past two decades, in particular in the trend towards corporatisation of water operators and the consolidation of water service provision (in Adherents such as **Ireland** and **Portugal** for instance). Independent WWS regulators necessarily interact with a broad range of institutions. Across the Adherents and territories surveyed by the OECD in 2014 on *Applying Better Regulation in the*

Water Service Sector, WSS regulators are part of a broader regulatory framework at national or sub-national level. This framework typically involves line ministries (environment or natural resources) in charge of water policies, health department in charge of water quality standards and ministries of environment in charge of effluents. Various public agencies, e.g. environmental protection agencies, also play a role in specific issues of water regulation.

Figure 6.6. Status of water regulatory agencies in selected OECD and non-OECD Adherents



Note: 32 water regulators surveyed

Source: Cited in OECD (2015), *The Governance of Water Regulators*, OECD Studies on Water, OECD Publishing, Paris, <https://doi.org/10.1787/9789264231092-en>.

Data from the OECD Indicators on the Governance of Sector Regulators (OECD, 2018)⁷ reveal the performance of 16 water regulators in Adherents. The database includes data: **Australia, Belgium, Chile, Czech Republic, Denmark, Estonia, Hungary, Ireland, Israel, Italy, Korea, Latvia, Netherlands, Portugal, Slovak Republic and United Kingdom**. All 16 regulators have their objectives and functions defined in legislation. This contributes to ensuring a predictable legal and institutional framework for the sector. Several regulators undertake measures to ensure that they are transparent as an institution, as are their rules and processes (Table 6.1, rows a-d). This can include by reporting on their activities (all 16 regulators), publishing forward-looking action plans (11 out of 16), publishing all their decisions, resolutions and agreements (15 out of 16) and showing how they have come to decisions by providing evidence and data (14 out of 16). Many regulators also use regulatory tools, such as evaluation and consultation mechanisms, to foster the quality of regulatory processes and make the results accessible to the public (rows e-h). In many cases, it is notable that regulators go beyond their legal requirements in terms of transparency and stakeholder engagement. For example, all the surveyed regulators report on their activities, even if this is not a legislative requirement (**Czech Republic, Estonia and Great Britain**) (row a). Similarly, providing feedback on the comments received from stakeholders is rarely a legislative requirement, yet in total 13 out of 16 regulators do so, including eight where it is not required by law (**Australia, Belgium, Denmark, Estonia, Ireland, Italy, Netherlands, United Kingdom**).

Table 6.1. Governance Arrangements in Water Regulators

	AUS	BEL	CHL	CZE	DNK	EST	HUN	IRL	ISR	ITA	KOR	LVA	NLD	PRT	SVK	GBR	Key
a. Is there a legislative requirement for the regulator to publish a report on its activities?	●	●	●	◆	●	◆	●	●	●	●	●	●	●	●	●	◆	Yes: ● No, but the regulator produces it: ◆
b. Is the publication of a forward-looking action plan a legislative requirement to enhance the transparency of the regulator's activities?	●	-	-	●	-	●	-	●	●	●	●	●	●	-	●	●	Yes: ● No/not applicable: -
c. Is the publication of all decisions, resolutions and agreements a legislative requirement to enhance the transparency of the regulator's activities?	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Yes: ● No/not applicable: -
d. Does the regulator need to motivate its regulatory decisions (e.g. with evidence and data)?	●	-	●	◆	-	●	●	●	◆	◆	●	●	●	●	●	●	Yes, all decisions: ● Yes, but not all decisions: ◆ No: -
e. Does the regulator publish draft decisions and collect feedback from stakeholders?	◆	-	-	●	◆	◆	-	◆	●	◆	●	●	●	●	●	◆	Yes, in line with a legislative requirement: ● Yes, even if there is no legislative requirement: ◆ No: -
f. Does the regulator provide feedback on comments received by stakeholders?	◆	◆	-	●	◆	◆	-	◆	-	◆	●	●	◆	●	●	◆	Yes, in line with a legislative requirement: ● Yes, even if there is no legislative requirement: ◆ No: -
g. Is public consultation on relevant activities a legislative requirement?	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	Yes: ● No/not applicable: -
h. Does the regulator collect information on the quality of regulatory process of the regulator?	●	●	●	-	●	●	●	●	●	●	●	●	●	●	-	●	Yes: ● No/not applicable: -

Source: OECD (2018) Database on the Governance of Sector Regulators

6.8. Promote innovative water governance practices

The Recommendation asks Adherents to “promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.”

Innovation is important in the water sector and can support change towards more sustainable and water secure futures. The extent to which innovations can be effectively implemented and scaled-up is subject to enabling governance frameworks.

In order to implement innovative systems, there is a widely acknowledged need for improved water governance across multiple levels of administration, sectors and stakeholders that can manage water for multiple values. Several Adherents have put in place “pacts” to achieve common goals across levels of

governments and build capacities. For example, in the **Netherlands**, the Climate Adaptation City Deal was signed in 2016 between the Ministry of Infrastructure and the Environment, three regional water authorities, five cities (The Hague, Dordrecht, Gouda, Rotterdam and Zwolle) and seven other partners (research centres and companies). The aim was to create a learning environment for climate adaptation at urban level for the next four years. In particular, it promoted innovative ideas to tackle flood risks, to foster an integrated approach between water and spatial planning, and to enhance co-operation in general (Charbit and Romano, 2017^[11]). Another example of this type of practice is the contracts between the municipality of Paris (**France**), where authorities in the hinterland and farmers to foster co-operation between supplying areas in terms of water resources and the urban core. The city water operator, Eau de Paris, has been involved in two programmes – Phyt'Eaux Cités and Preri – to preserve and improve water quality in its catchment areas, in partnership with the river basin agency of Seine- Normandie. The first programme, Phyt'Eaux Cités, encourages suburban communities, golf courses, garden centres and transportation networks to reduce or stop their use of pesticides in the Yvette, Orge and Seine basins. The second programme, Preri, aims to prevent industrial risks near the Seine and Yerres rivers by identifying and monitoring potentially dangerous sites in terms of industrial waste (OECD, 2016^[5]).

Good practices include promoting innovative ways to co-operate, to pool resources and capacity, to build synergies across sectors and search for efficiency gains. An example is a multi-stakeholder committee (representatives from community organisations, the industrial sector, government departments, other levels of government and municipal services) in Montreal (**Canada**) that helped improve the quality of discharged water in catchment areas. New York City (**United States**) has also created an agreement with watershed communities and other authorities helped to preserve both water quality and the economic dynamism of the area through urban-rural partnerships (OECD, 2016^[5]). A kind of co-operation based on the participation of higher levels of government are Consortia (**Italy, Spain**), which are standing organisations with a board and staff for drinking water supply cycle (from production to distribution) (i.e. Greater Bilbao Water Partnership, a consortium of 43 municipalities, provincial government of Biscay, the Autonomous Basque Community and central government). Additionally in **France**, there is the *Conseil communautaire*, an elected body that can act on behalf of the municipalities on specific water issues and the Metropolitan Authority of Barcelona (**Spain**) that has fostered an integrated perspective across local governments as well as shared infrastructure and expenses (OECD, 2016^[5]).

The implementation of innovative practices has already occurred in terms of new forms of data and information sharing through collaboration with various stakeholders, like universities and specified government systems. For example, in 2017, **Turkey**, integrated the National Water Information System into Turkey's "E-government" system, an online public portal informing on the quality of public services. The ultimate objective is to promote social learning on water policy and encourage the use of data by non-governmental actors (i.e. academia, NGOs, etc.) (OECD, 2018^[11]). In the **Netherlands**, the Waves system is an open data initiative launched by Dutch Water Authorities to promote social learning in the Netherlands. Waves makes large amounts of data on the performance of each water authority available to the public. Every two years, Dutch Water Authorities analyses the data and publishes a report that benchmarks the performance of all the authorities. Besides the open data and the reports, the website also provides tools that allow running simple analyses (OECD, 2018^[11]). The **Netherlands** also uses e-participation to set up citizen observatories for flood risk management (OECD, 2015^[12]). **Portugal** utilises open data systems in the form of a mobile application developed by the Water and Waste Services Regulation Authority (ERSAR). The app aims to provide relevant information to water and waste services users in Portugal, like the quality of service provided to each user so that users can compare their service to those in other geographical areas. (OECD, 2015^[12]).

6.9. Mainstream integrity and transparency

The Recommendation asks Adherents to “mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making.”

Integrity and transparency are both critical for building and restoring trust in governments and water institutions. Integrity is an indispensable pre-condition to ensure that existing resources and decisions serve society and improve equity, efficiency and sustainability.

Promoting integrity and transparency requires support by the highest authorities and an enabling institutional environment for actors responsible for implementing integrity measures. Therefore, there is a need for integrity and transparency in all water-related policies and institutions, legislation and regulation at various levels, investment projects and programmes, and in business models for public and private entities working in water resources management and water service provision. This has occurred in the International Commission for the Protection of the Danube River, which flows through several EU member states (**Germany, Austria, Czech Republic, Slovak Republic, Hungary, Croatia, Romania and Bulgaria**). It has developed rules of procedure to mainstream integrity and transparency practices to increase accountability and trust in the decision-making process of the commission. These rules range from the fundamentals of treaties to organisational rules for staff members of the permanent secretariat. The commission also supports the active involvement of stakeholders and civil society through observer organisations as well as public consultation processes for the development of basin management plans (OECD, 2018^[1]).

Following a call for greater transparency and accountability in the water sector, in the **Netherlands** benchmarking has developed in the last decade. Existing benchmarks differ according to number of associated organisations and with respect to ranking, learning and exchange of best practices, and development of key performance indicators. In addition to these benchmarks, the Consumer Association (Consumentenbond) also plays an important role in terms of customer interest protection with regard to all aspects related to water and sanitation, especially the quality of services.

6.10. Promote stakeholder engagement

The Recommendation asks Adherents to “promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation”.

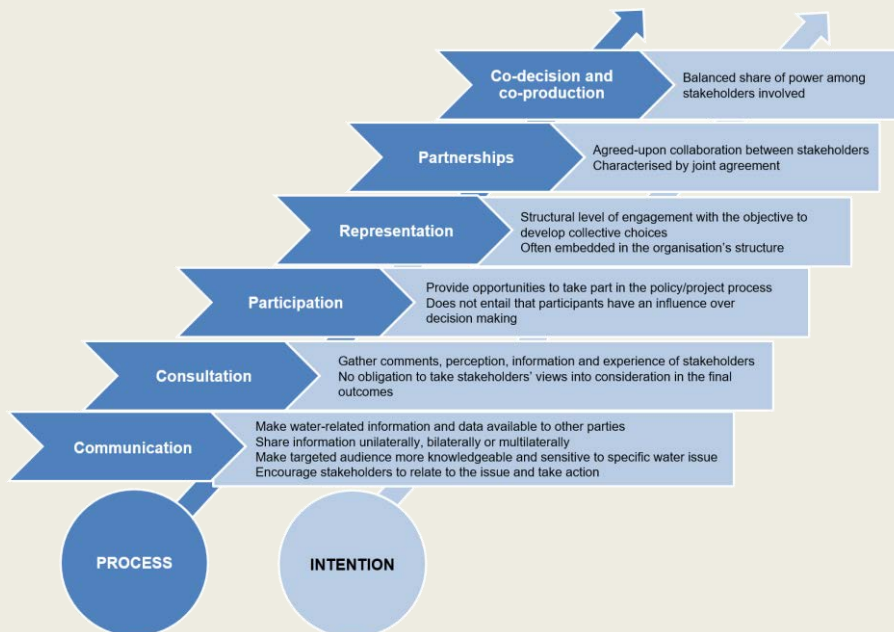
The water sector involves a plethora of public, private and not-for-profit stakeholders. In addition to policy makers and governments, citizens, private actors, end users, investment banks, and infrastructure and service providers have a stake in the outcome of water policy and with whom engagement needs therefore to be sought (Box 6.1).

Box 6.2. Stakeholder engagement

Stakeholder engagement refers to the process by which any person or group who have an interest or stake in a water related topic, and/or have the ability to influence the outcome positively or negatively, are involved in the related activities and decision-making processes, as well as how water policy may directly or indirectly affect the actors involved. It implies that all stakeholders, including vulnerable and resource-poor groups, are meaningfully involved in deciding the use, protection, management and allocation of water (OECD, 2015_[12]). A distinction is also necessary between public participation and stakeholder engagement. The former encompasses a range of procedures and methods designed to consult, involve and inform local communities and citizens (i.e. the “public”, essentially civil society and customers). The latter opens a broader perspective to different groups of actors, including levels of governments, the private sector, regulators, service providers, donor agencies, investors and other relevant constituencies, in addition to civil society in its different forms (e.g. non-governmental organisations, citizen movements, etc.).

There are six levels of stakeholder engagement depending on the processes and the intentions they pursue (Figure 6.7). *Communication* intends to make water-related information and data available to other parties and to raise awareness involving open dialogue with the targeted audience on a specific water-related issue. *Consultation* aims to gather stakeholders’ comments, perceptions, information, advice, experiences and ideas. *Participation* insinuates the association of stakeholders within the decision-making process and that they take part in discussions and activities. *Representation* involves the development of a collective choice by aggregating preferences from various stakeholders, often officially representing the perspectives and interests of stakeholders in the management of a project or an organisation. *Partnerships* consist of agreed-upon collaboration between institutions, organisations or citizen to combine resources and competencies in relation to a common project or challenge to solve. *Co-production and co-decisions* are characterised by a balanced share of power over the policy or project decision-making process. They transform the relationship between stakeholders, enabling each of them to take more control and ownership, and contributing to the alignment of policy or project outcomes with their aspirations and needs.

Figure 6.7. Levels of stakeholder engagement



Source: OECD (2015), Stakeholder Engagement for Inclusive Water Governance, OECD Studies on Water, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264231122-en>

Source: The OECD Water Indicator Framework, OECD, 2019. <https://www.oecd.org/cfe/regional-policy/oecd-water-governance-indicator-framework.htm>

Evaluating the effectiveness of the engagement process and outcomes can shed light on the contribution of stakeholder engagement to better water governance. Conducting evaluations on the costs and benefits of stakeholder engagement can provide the evidence to effectively guide decision making and policy/project implementation with tangible data and analyses. The costs of stakeholder engagement relate to the different phases of the engagement process and concern the production and disclosure of needed information, operational expenses (facilities, travel, staff, overtime, etc.) or opposition to the final decisions, as well as delays in decision making or implementation. Overall, benefits can be clustered into four types: acceptability and sustainability (e.g. effective implementation, proper enforcement of regulation, political acceptability, ownership of decision and outcomes); social equity and cohesion (e.g. trust, confidence, customer satisfaction, corporate social responsibility); capacity development (e.g. awareness raising, information sharing, opinion forming); and economic efficiency (e.g. cost saving, value for money, time saving, broader economic benefits as policy coherence, synergies across projects) (OECD, 2015^[12]).

In **Germany**, the National Water Dialogue embraces a multi-governance level approach, engaging all levels of administrations and all relevant stakeholders, even beyond the water sector, as well as citizens, in order to develop a shared vision on water management. The first National Water Forum took place in October 2018 in Berlin to discuss the problems and challenges of water governance and management in Germany. This Forum brought together 130 participants from a variety of sectors. The Ministry of Environment will draft a National Water Strategy by 2021 based on this Dialogue process and according to a number of guiding principles. The National Water Dialogue and ensuing Strategy constitutes the response to the demand from participating stakeholders that water needs to play a greater role in environmental policy and more value needs to be attached to the quality of water within society. The Strategy will thus recognise and enforce the political significance of water as the basis for life and its linkages to other sectors such as agriculture, energy and health (Gruère, Ashley and Cadilhon, 2018^[9]).

Spain also has a long history of multi-stakeholder decision making for water resources management, reinforced by the requirements of the WFD. The Júcar river basin authority promotes information, consultation and public participation in the process leading to the establishment of the river basin management plan, and supports the involvement of interested parties in achieving good status of the Mancha Oriental water body to build multi-stakeholder consensus on key water decisions. This led to the adoption by Royal Decree of the new Water Management Plan for the Júcar River Basin in July 2014, as required by the EU WFD, with monitoring and control tools for water bodies' quality and quantity; resource-saving actions; and measures to substitute water pumping practices (OECD, 2015^[12]).

A clear set of rules, platforms and vehicles are critical to move from reactive to proactive and systematic stakeholder engagement in the water sector. These platforms exist in **Belgium** and **France**, where stakeholders are systematically engaged in establishing flood-risk maps, for instance. Governments must also establish such platforms to shape long-term strategies and plans within an integrated basin approach. As flood risk intensifies, engaging property developers and landowners will become increasingly important as in the case of the participatory flood-monitoring programme of Vivaqua, a drinking water and sanitation service provider in **Belgium**. It is equally important to ensure that marginalised or vulnerable stakeholders are also properly engaged, as exemplified by the flood prevention programme of Alsace-Moselle (**France**), where the benefits and costs of flood governance measures were distributed equitably (OECD, 2019^[2]).

Stakeholder engagement within the **European Union** comes together with the Common Implementation Strategy (CIS), established by EU Environment Ministers and the European Commission, which supports Adherents' implementation of the requirements of the EU's Water Framework Directive. The CIS ensures the full involvement of stakeholders such as water users, public authorities, the scientific community, international organisations and non-governmental organisations (civil society) in the preparation and adoption of policy documents and guidance in support of member Adherents' implementation of the Directive. The CIS ensures that stakeholders an active role in informing the implementation process and in preparing decisions, activities and outputs from the process. It works at three distinct levels: working groups, a Strategic Co-ordination Group (SCG) and a Water Directors' Group. In most cases, issues reach consensus in the working groups and the SCG (OECD, 2015^[4]).

In 2008, the Ontario government (**Canada**) passed the Lake Simcoe Protection Act, which established two permanent committees that engage multiple stakeholders in decision-making, the Lake Simcoe Science Committee and the Lake Simcoe Co-ordinating Committee, to guide the ongoing efforts to protect the watershed and the lake. The latter consists of representatives from municipalities, Aboriginal communities, the Lake Simcoe Conservation Authority, the province, agricultural and industrial sectors, interest groups and the public. Through an extensive process of stakeholder engagement, the Lake Simcoe Protection Plan was developed and released in 2009. The process allowed diverse stakeholders to provide input on potential actions, including designated policies within the plan that have legal weight to protect sensitive parts of that watershed (OECD, 2015^[4]).

In the **Netherlands**, the Delta Programme involves multiple stakeholders, as it is a joint endeavour between the Ministry of Infrastructure and Environment, provinces, municipal councils and regional water authorities, in close co-operation with social organisations and business. Its two priority goals are to protect the Netherlands against flooding and ensure freshwater supply over the next 100 years. Stakeholder engagement within this programme has led to customisation in the strategies and the commitment of several parties at a regional (within the sub-programmes) and national level. Building on multi-stakeholder dialogue, and technical calculations and assumptions, the Delta Programme is governed by several decisions that instruct what measures should be taken for flood risk management (standards, strategies), freshwater strategy, water levels, protection of the delta and spatial adaptation (OECD, 2015^[12]).

6.11. Manage governance complexity and trade-offs

The Recommendation asks Adherents to “encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations”.

In the Fitzroy River basin (**Australia**), an indigenous community from Australia has developed a political declaration aiming to protect the traditional and environmental values that underpin basin’s heritage. The aboriginal community has been the traditional guardian of the river for centuries, but increasing development in the watershed is jeopardising the future of the river and its people (OECD, 2018_[11]). As a result of the “Fitzroy River Declaration”, which has been developed based on the OECD Principles, the Government of Western Australia committed to a catchment management plan for the River as well as designated national park areas in parts of the Fitzroy and Margaret Rivers for greater stakeholder engagement.⁸

In terms of managing trade-offs across water users, rural and urban areas, and between generations, a constructive dialogue is a key component. For example, **Mexico** created the River Basin Commission of the Tecocomulco Lagoon in 2005 as an auxiliary structure of the Mexico Valley River Basin Council with the objective to reverse serious risks of deterioration. It is composed of representatives from different levels of government (federal, state, municipal), water users and civil society organisations. It has responsibilities in land and water conservation, as well as sanitation and training activities to foster integrated water resources management (IWRM) and water conflict resolution in the lagoon. The commission builds on constructive dialogues across sectors that had been historically antagonistic. Regular and dynamic meetings as well as monitoring agreements since its creation have positioned the commission as an instance of trusted social participation. It is taken as a reference by consulting regional governments for the implementation of their development programmes at basin level (OECD, 2015_[12]).

6.12. Monitor and evaluate water policy and governance

The Recommendation asks Adherents to “promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.”

Evaluation can help determine whether water policies work well and learn from experience to improve practice in the future. For example, **Ireland** conducted a comprehensive review (in 2010 and 2014) to assess to what extent water policy fulfils the intended outcomes. As a result, a new three-tier interlocking governance structure was created with a much stronger focus on collaboration, role clarity, hard science and evidence, integrated catchment management, and public engagement (OECD, 2018_[11]). Under the **Australian** Water Act 2007, the Productivity Commission (PC) is required to undertake triennial assessments into the progress in achieving the objectives and outcomes of the National Water Initiative (NWI) (e.g. strong and effective water governance; improved efficiency and productivity of water use; improved sustainability of water management; benefits to regional, rural and urban communities etc.) and the need for any future reform. The first PC assessment, published in 2018, called for Council of Australian Governments to renew the NWI by 2020, which is still pending at the time of writing. Regular evaluations, especially when mandated, can also help reconsider the adequacy of existing policies and thereby facilitating the first steps towards necessary reforms (Gruère and Le Boëdec, 2019_[13]).

Data can also inform the effects and effectiveness of implemented or planned measures on the reduction of risk (e.g. the geographical information system, or GIS-Tool of the ICPR in the case of the Rhine transboundary basin). In **Poland**, **Belgium** (Flanders), **France** and **England** for instance, the government is using cost-benefit analyses to increase the efficiency of flood governance approaches (OECD, 2019_[2]). This includes political, social, and environmental risks. In **Portugal**’s Water and Waste Services Regulation Authority (ERSAR) created a customised system of performance indicators (16 for drinking water supply services and 16 for urban wastewater management services) to support the implementation of water

services policies and assess the quality of service provided. ERSAR assesses results of the indicators for each service provider and benchmarks them against other service providers. The information is publicly available and feeds official national and European statistics, as well as relevant policy discussions and decisions. It guides the elaboration and review of the national strategic plans for water services.

A robust evaluation can also be an effective form of risk management. Monitoring frameworks can also draw on indicators at different levels, such as the EU Floods Directive monitoring system (e.g. the Floods Directive Scoreboard, the EU Court of Justice ruling for non-compliance), national supervision (e.g. flood safety standards) or municipal assessments (e.g. on risks and costs of flood events in land-use planning). This raises questions as to how monitoring and evaluation results can link back into the flood management process in an iterative manner and at appropriate intervals delays and formats. For example, **France** approved local strategies and action programmes on territories exposed to floods in 2016, in accordance with their related Flood Risk Management Plans. However, these monitoring and approval processes can at times be hampered by time mismatches, and some local strategies cannot be included in Flood Risk Management Plans because they cannot be finalised by the time these plans are to be issued (OECD, 2019^[2]).

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Notes

¹ www.oecd.org/governance/oecd-principles-on-water-governance.htm

² 2019 OECD Survey on water and agriculture policy changes.

³ Acapulco de Juarez, Amsterdam, Athens, Barcelona, Belo Horizonte, Bologna, Budapest, Calgary, Chihuahua, Cologne, Copenhagen, Culiacan, Daegu, Edinburgh, Glasgow, Grenoble, Hermosillo, Hong Kong, China; Kitakyushu, Krakow, Lisbon, Liverpool, Malaga, Marseille, Mexico City, Milano, Montreal, Nantes, Naples, New York City, Okayama, Oslo, Paris, Phoenix, Prague, Queretaro, Rio de Janeiro, Rome, San Luis Potosi, Singapore, Stockholm, Suzhou, Toluca, Turin, Tuxtla, Veracruz, Zaragoza and Zibo.

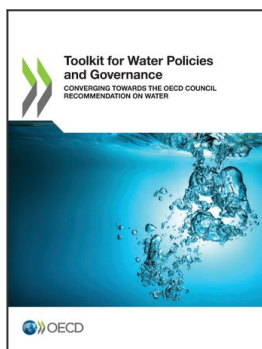
⁴ The water basins of the overseas departments of Guadeloupe, Guyana, Martinique and Reunion have a Water Office, with equivalent missions.

⁵ 2019 OECD Survey on water and agriculture policy changes.

⁶ <https://servicio.mapama.gob.es/pphh-web/>

⁷ The Indicators on the Governance of Sector Regulators (OECD, 2018) capture the governance arrangements of economic regulators in the energy, e-communications, rail transport, air transport and water sectors.

⁸ <http://www.oecd.org/cfe/regional-policy/Water-Practice-41-OECD-Principles-Fitzroy-River-Australia.pdf>



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