

FINANCING WATER QUALITY MANAGEMENT AND INVESTMENT IN INFRASTRUCTURE

Water policy in France: a decentralised and participatory system

French water policy is based on using environmental taxation to finance actions to protect and restore water resources and aquatic environments. This system, implemented by the Water Agencies, involves water stakeholders at basin catchment level working together in Basin Committees to determine the size of charges to levy within statutory national limits. This participatory model facilitates the acceptance of taxes by liable entities but requires constant adjustment in order to take new issues into account, remain representative of water users and retain its levels of acceptability.

The basic principles of France's current water policy have been developed around a series of successive cornerstone laws:

- **The 1964 Water Act**, which established the Water Agencies and the catchment basin areas of resource management, with the creation of the Basin Committees as genuine water “parliaments” well before the regional initiatives recommended in the European Water Framework Directive (WFD);
- **The 1992 Water Act**, which recognised that water was part of the common heritage of the French nation, with the creation of a licensing or declaration procedure for works and activities that impact water resources. A “Water Development and Management Master Plan” (SDAGE) is prepared for each basin, containing objectives and a plan of actions for meeting them;
- **The Law of 2004** transposing the 2000 European Water Framework Directive (WFD) into French law, thereby completing and strengthening an already extensive national framework. The obligations set for each basin became result-oriented, with a view to achieving good water status in accordance with European legislation, and a six-year review period was set for the SDAGE;
- **The 2006 Law on Water and Aquatic Environments (LEMA)** contained a revised funding system for the Water Agencies and the aid they allocate, based notably on increasing taxes for activities which cause environmental damage. It also strengthened existing regulatory tools to facilitate implementation of the WFD.

Water Pricing

The principles of French water policy

There are two main principles governing the financing of the water sector (abstraction, treatment, supply, storage, drainage and processing):

- The “**water pays for water**” principle

Consumers pay waste and wastewater service providers for the infrastructure and maintenance required to produce and supply drinking water, and for sanitation purposes. Expenditure by local authorities must

therefore be offset by revenues collected from users through water bills. The principle ensures that the investment and operating costs of installations are recovered, and is applicable to both public services (drinking water and sanitation) and the private sector (industrial facilities and irrigation systems).

- The “**polluter pays**” and “user pays” principles

The “water pays for water” principle is extended to the recovery of environmental costs, whereby polluters and consumers are subject to environmental taxation with an incentive to reduce their consumption or their pollution. These provisions enforce the cost-recovery principle laid down in the European Water Framework Directive (directive 2000/60/EC).

Fiscal measures

Environmental taxation relating to water use takes the form of a series of charges provided for by articles L. 213-10 et seq. of the Environment Code. There are seven categories based on the source of pressure on aquatic environments:

- Tax on water pollution (Articles L. 213-10-1 to L. 213-10-4);
- Tax for modernisation of the waste water drainage systems (Articles L. 213-10-5 to L. 213-10-7);
- Tax on diffuse pollution (Article L. 213-10-8);
- Tax on the abstraction of water resources (Article L. 213-10-9);
- Tax for storage in low water level periods (Article L. 213-10-10);
- Tax on obstacles on rivers (Article L. 213-10-11);
- Tax for the protection of aquatic environments (Article L. 213-10-12).

The taxes are therefore designed to internalise environmental externalities in the price of water. There are two categories of environmental cost to take into consideration:

- Costs generated by pollutants released into water, with an impact on the **quality of water**;
- Costs relative to a chronic shortage of the resource, generating conflicts of use and changes in flows which have an impact on the **management of water quantity** and which may also affect water quality (as flow reduction causes a greater concentration of pollution).

The table below presents the taxes as defined by the Environment Code:

Type of Tax	Tax payers	Area of intervention
Domestic water pollution	Domestic users and the like	Point and non-point pollution caused by water treatment
Non-domestic water pollution	Any economic or industrial activity which discharges pollution	Industrial point sources of pollution
For modernisation of the wastewater drainage systems	All persons subject to the domestic or non-domestic pollution tax and the water treatment tax	Point and non-point pollution caused by domestic and industrial water treatment
Abstraction of water resources	Industrial and agricultural water users	Water abstraction
Abstraction for Hydroelectric production	All persons operating a hydroelectric installation with an annual turbine flow in excess of one million cubic metres	Changes to the flow regime of waterways
Diffuse pollution	Users of plant protection products	Diffuse pollution caused by plant protection products and seeds
Pollution from farming activities	Farms with over 90 livestock units, or 150 livestock units in mountain areas	Pollution from nitrogen emissions caused by farming
Obstacles on rivers	<p>All owners of structures forming a continuous obstacle between the two sides of a waterway, with the exception of:</p> <ul style="list-style-type: none"> ·hydroelectric structures already paying the tax on the abstraction of water resources ·structures with a difference in elevation of under 5 metres ·structures on a waterway with an average inter-annual flow rate of under 0.3 m³/s at the point of the obstacle 	Encourage the upgrading of these obstacles, or their removal where they are no longer useful, in order to help return to a healthy river ecosystem
Storage in low water level periods	All persons storing some or all of the water flow in a waterway during a low water level period, provided that the capacity of the storage installation is over one million cubic metres	Reduction of downstream water flow (disrupting aquatic life and water usage)
Protection of aquatic environments	Amateur and professional fishers	Extraction of fish species

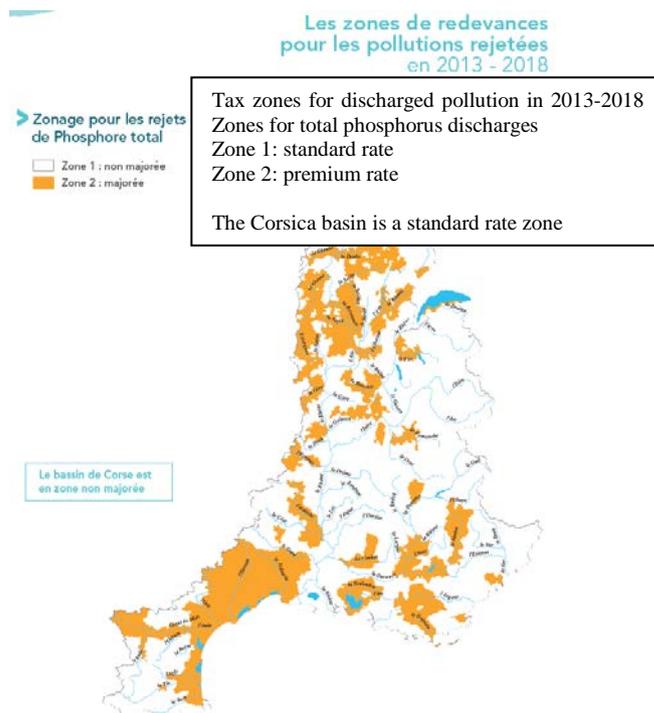
The objective of the tax base used for these water charges is to internalise environmental costs. Accordingly, the measure for taxes with a quantitative objective is **abstraction volumes**, for which a volume-related pricing system provides the best incentive, at least in terms of reducing abstractions. The basis for pollution taxes is the **quantity of pollutants** actually discharged. Only the tax on domestic water is based on the volume of water used and not the pollution actually discharged. This base could be improved although that would require measuring the pollution discharged by each household, which would be very expensive.

In addition, changes to the tax rates depending on **geographic zone** and type of use also help to provide a price signal which takes into account local pressure on water resources. Zones are established in each basin, based on municipal boundaries, thereby making it possible to apply higher rates to a single tax for areas considered to be more sensitive to the externality targeted by said tax. The map on the right presents the zones established in the Rhone-Mediterranean basin for phosphorus emissions. Users located in the orange zone pay a higher pollution tax than the other users in the basin as pollution from their water use is discharged in sectors where the environment is particularly vulnerable.

Similar zones also exist for the tax on abstractions. In the Rhone-Mediterranean basin, for example, households in a zone with a non-deficit water resource paid a tax of EUR 30 per thousand m³ abstracted in 2015, compared to a higher rate of EUR 68.31 per thousand m³ in zones with a deficit water resource. The purpose of this scalable rate is to encourage users to reduce water abstraction in regions with a deficit resource.

These various taxes all fall under the category of levies of all kind and as such are laid down by **legislation** (tax base and ceiling rate). In some circumstances, Parliament can also set a floor rate (as with the “abstraction” tax in the overseas dependencies) or a nationwide flat rate (as with the “farming”, “diffuse pollution” and “protection of aquatic environments” taxes).

Where the rates are not set by Parliament, they are determined for **each catchment basin**, in compliance with the ceiling rate laid down in the Finance Law, by the par the board of directors of each Water Agency after receiving the assent of the basin committee. The rates are set for six years, corresponding to the length of the Water Agencies’ action plans. They can nevertheless be reviewed on an annual basis in order to accommodate specific issues affecting regions, especially with regard to social and environmental criteria. This possibility is also designed to ensure that the revenue cap set by Parliament for the duration of the action plans is respected.



Source: Rhone-Mediterranean and Corsica Water Agency

Local application of water policy

There are seven catchment basins in metropolitan France and five in the overseas dependencies. Six **Water Agencies**, public institutions under the authority of the Ministry of Sustainable Development, are responsible for implementing national water policy in the basins: Adour-Garonne, Artois-Picardy, Loire-Brittany, Rhine-Meuse, Rhone-Mediterranean-Corsica, Seine-Normandy. In the overseas dependencies, this task is carried out by the **Water Offices**, local public bodies operating at the level of the overseas departments: Guadeloupe, French Guiana, Reunion, Martinique. Income from the taxes is collected locally for each basin before being incorporated into the budget for public establishments and being used to help finance the action plans.

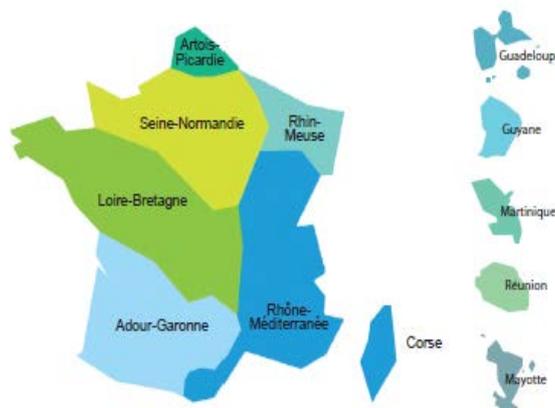


Figure 1 – Catchment basins. Source: the Water Agencies, 2012.

Action Plans

The purpose of the Water Agencies and Offices is to provide **financial and technical assistance** for water-related general interest measures carried out in order ensure the sound and cost-effective management of water resources and aquatic environments. This includes, among other things, fighting water pollution and protecting and restoring natural environments. The details of the aid provided (types of project funded, allocation criteria, type of assistance) are determined by the board of directors of each Water Agency after receiving the assent of the Basin Committee. Subsidies may not exceed 80% of the total cost of the project receiving assistance. Assistance can be granted to local authorities, companies (especially in industry and farming), associations and private individuals. Support for businesses is made possible legally through the General Block Exemption Regulation (RGEC) 651/2014.

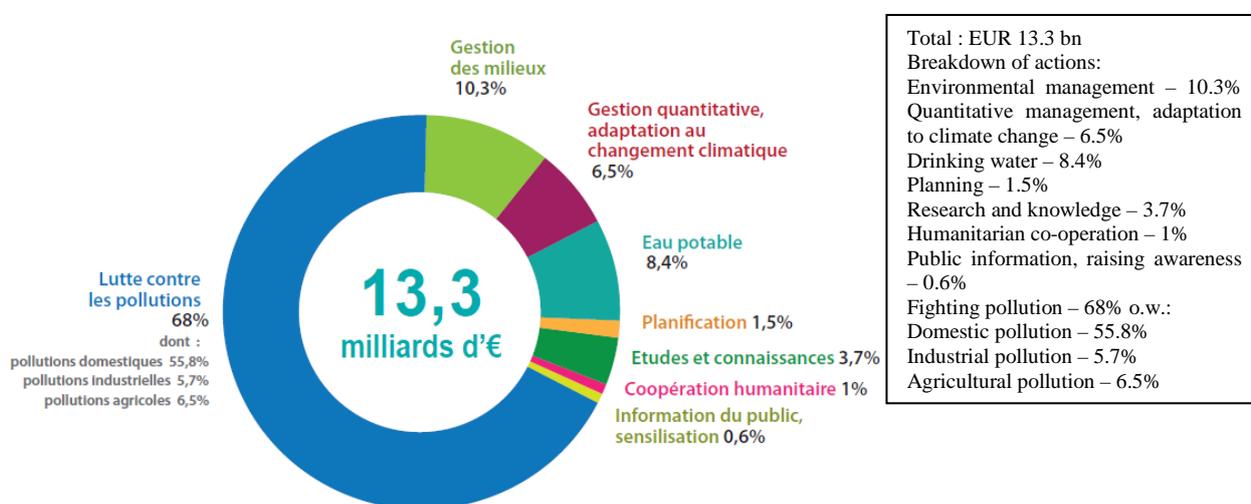
In order to fulfil their missions, each Agency and Office implements a **multi-annual action plan** covering a period of six years. Article L. 213-9-1 of the Environment Code stipulates that “for the performance of the missions laid out in Article L. 213-8-1, the multi-annual action plan of each Water Agency establishes the areas and conditions of its intervention and sets out the expenditure and income necessary for implementation. Parliament shall identify the general priorities for the Water Agencies’ multi-annual action plans and shall set their global expenditure ceiling for the period in question as well the ceiling on contributions by the agencies of the National agency for water and aquatic environments”.

Every intervention carried out under the Agencies’ multi-annual action plans, and the programmes themselves, are subject to prior multi-criteria assessments. Indeed, every project presented to an Agency for financing is evaluated in an aid commission, where it is scrutinised. The order of priority of projects receiving assistance is established according to the expected environmental benefit for the aquatic environments, in particular the impact of the project on the priority water bodies in the Water Development and Management Master Plans (SDAGE). Against a backdrop of limited financial resources, aid allocation also depends on the efficiency of the project with a view to favouring the most cost-effective actions. In the interests of a transparent water policy, and in order to comply with transparency obligations under European guidelines on State aid, the list of projects receiving assistance and the records of the decisions involving the granting of aid are publically available since the start of 2015.

The levying of taxes provides the resources necessary to fund these actions and distribute aid to public and private contractors. The taxes from different water users (households and economic actors) go directly to the Water Agencies in each basin and are reinvested in the region. Accordingly, the Water Agencies and Offices operate somewhat like mutual companies. This method of allocating resources creates a **virtuous circle** which can then be used to finance measures to reduce pollution and make the taxes more acceptable in the eyes of water users. In addition, it gives valuable six-year visibility as to annual forthcoming revenue streams so that expenditure on measures to be taken can be planned accordingly.

Figures illustrating the Xth action plan (2013-2018)

Under the terms of the Xth action plan for the period 2013 to 2018, Parliament has set the ceiling on taxes collected at EUR 13.8 billion. The breakdown of the planned actions appears below, for an estimated total expenditure of EUR 13.3 billion over the six year period:



Total : EUR 13.3 bn
 Breakdown of actions:
 Environmental management – 10.3%
 Quantitative management, adaptation to climate change – 6.5%
 Drinking water – 8.4%
 Planning – 1.5%
 Research and knowledge – 3.7%
 Humanitarian co-operation – 1%
 Public information, raising awareness – 0.6%
 Fighting pollution – 68% o.w.:
 Domestic pollution – 55.8%
 Industrial pollution – 5.7%
 Agricultural pollution – 6.5%

Répartition des interventions

Source: MEDDE, 2012.

In 2014, the six Water Agencies distributed aid totalling around EUR 1.8 billion to fighting pollution and managing aquatic environments. Over the duration of the Xth programme, this figure is expected to rise to EUR 12 billion. At a more local level, the Water Agency for Loire-Brittany invests aid of around EUR 300 million into water quality. In the Rhone-Mediterranean basin, around EUR 55 million was earmarked in 2015 for industrial and agricultural de-pollution.

A System Based on Stakeholder Consultation and Participation

Each of the Water Agencies' six catchment basins has its own Basin Committee, comprising:

- Elected representatives of subnational government: municipalities and their associations, departments and regions (40%);
- Water users: industries, farmers, environmental protection associations, fishing associations, consumer associations (40%);
- State representatives (20%).

A similar set-up, with a few adjustments, is also in place in the overseas dependencies and Mayotte.

The Basin Committees are genuine decision-making bodies which ensure, through the presence of the three aforementioned groups, that all stakeholders in water policy are brought together. This allows for a democratic and participatory system, and encourages debate and consultation between the different actors. This collaborative management per catchment basin also exists within the Water Agencies (whose directors are appointed by the Basin Committees and the State).

Their role is to establish the main water management guidelines in each basin, in pursuance of national and European water policies. In particular, they adopt the Water Development and Management Master Plan (SDAGE), express an opinion on the Water Agencies' multi-annual action plans and give their assent to the tax rates necessary for funding the plans (within the limits set by Parliament).

The decision-making nature of the Basin Committees ensures the integration of the various stakeholders in the overall system for managing water resources on French territory. It also makes the taxes easier to accept, as does the financial aid provided by the Water Agencies. Because financial aid is funded by income from the taxes, water users no longer see the charges levied as taxes in the traditional sense but rather as an investment in their region from which they may potentially benefit.

In addition, the existence of the Basin Committees encourages a proper approach to cost recovery insofar as tax rates are based on a political decision which takes into account the social and economic components of each stakeholder. Particular attention is therefore paid to finding a balance between the economic objectives to be attained and the economic constraints of each category of water user.

The Basin Committee model is also replicated in national bodies via the National Water Committee (NWC), a participatory organisation which brings together all the water stakeholders. The NWC is consulted on national water policy guidelines and gives an opinion on draft legal texts, draft reforms and government action plans. At the local level, the Local Water Commissions (LWC) are responsible for developing collectively, reviewing and monitoring the implementation of Water Development and Management Plans (SAGE), which are local versions of the SDAGE.

A Proactive System for Maintaining Balances

Taxation that adapts to changing priorities

The taxes collected by the Water Agencies have changed in order to reflect shifts in priorities as new sources of pollution emerge. From an initial focus on domestic and industrial discharges, they have gradually widened their scope to agricultural pollution. More recently, the 2006 Law on Water and Aquatic Environments introduced a tax on pollution from phytosanitary products.

Tax bases and rates are likewise reviewed on a regular basis. A decree issued in 2014 widened the tax base on diffuse pollution to a longer list of carcinogens, mutagens and reprotoxic substances.

Similarly, environmentally harmful substances were introduced into the assessment basis for the tax on non-domestic pollution for implementation on 1 January 2016 so as to take into account new sources of industrial pollution. The tax rate was also adjusted. The rate for toxic metals (in EUR/kg), which had a ceiling of EUR 3/kg-équitox¹ under the 2006 Law on Water and Aquatic Environments, was increased to EUR 3.6/kg-équitox on 1 January 2013. The rate for pollutants with levels of "acute toxicity discharged into the sea over 5 km from the coast and at depths of below 250 m" was increased to EUR 4/kg-équitox. Discussions are currently underway to review the assessment bases of these taxes yet again to keep them more closely aligned on the challenges facing marine environments.

¹ French unit of measure of toxicity equal to LC(50)-24h for Daphnia in a cubic metre of water.

Moreover, the suggestion has been made, during the debate on the law on biodiversity, to extend the remit of the Water Agencies to marine environments and terrestrial biodiversity. There is almost certainly going to be a discussion on extending tax bases and tax rates to sources of pollution in these environments, which are currently not taken into account.

A balance between contributors that must be maintained

The fact that the system is accepted is partially due to the fact that the contributors are also the beneficiaries. This raises the question of the size of the contribution of each category of actor relative to the funding they receive from the action plans.

Analysis of the cost recovery and financial transfers published every six years in the SDAGE reveals the different financial flows between actors along with each user's contribution to global water resource management. It appears that some users put in more than they take out while others, in contrast, are net beneficiaries of the system.

The main contributors to the budgets of the Water Agencies are the users of water and wastewater services, and they are also the main beneficiaries. However, they feel that they pay too much given the amount of pollution they generate. On the other hand, the size of farmers' contributions is criticised for not reflecting the pollution they generate, especially when they receive more than they put in.

As there is no realistic possibility of each category of actor becoming a net beneficiary of the Water Agency system, since there is no way of establishing a firm correlation between contributions and the degradation of the aquatic environment, "trade-offs" between users are inevitable. However, these must remain equitable in order to maintain actors' mutual trust in each other and their faith in the system.

To this end, the Water Agencies recalibrated the contributions of the different user categories in their 2013-2018 multi-annual action plans. This resulted in the new taxes and wider tax bases mentioned above, with an increased levy on industry and farmers. It also led to adjustments in the tax rates:

- At the national level, there was a change in tax regulation in the 2012 Finance Law, with the abolition of the difference in the domestic and non-domestic rate for the tax for modernisation of the wastewater drainage systems, an increase in the rate ceilings for the tax on abstraction of water resources with a reduction in the gap between the different uses of the abstracted water, and the introduction of an additional pollution parameter measuring the tax on pollution from economic activities.
- In the Basin Committees, most of the taxes were raised in line with the higher ceilings. Eventually, some Basin Committees are expected to lower the tax rates on domestic users.

To maintain this policy balance, compromises are constantly required between the various stakeholders needed to maintain the optimal running of a system which, as a direct result, is never static but evolving quasi-permanently.

Governance adapts accordingly

In the same vein, there is a constant need to strike the right balance in the range of actors introduced into the system by the Basin Committees, given the individual interests of each stakeholder.

The issue of representation covers not only the balance of representation of the different user categories and the responsibilities conferred upon them within bodies, but also the process for appointing representatives given the emergence of representative bodies with new legitimacy.

In 2014, the National Water Committee (NWC) examined the governance of the Basin Committees and the boards of directors of the Water Agencies, primarily at the behest of non-economic users who felt that they were under-represented. The outcome was a change in the way the Basin Committees are governed, with developments including:

- The division of the user group into three subgroups: non-professional users (consumer associations, environmental protection associations, leisure associations), which now represent one third of the total group, professional rural users (farmers, fishers, shellfish farmers, fish farmers, tourism professionals), and professional industry-based and artisan users. This new organisation ensures that non-professionals make up one third of the total user group.
- The way in which farmers are appointed has been changed, and they are now selected by a body comprising the chairs of the chambers of agriculture, representing the main agricultural activities in the basin in terms of both the sectors of farming and the methods of farming, including at least one organic farmer appointed in consultation with departmental or regional groups of organic farmers. These rules allow for more diversity and a better representation of the farming profession within the Basin Committee.
- The reform also provides for the creation of three vice-chair positions with a three-year mandate, one for each subgroup within the user group. The aim is to improve the distribution of responsibilities between the user categories, thereby involving them in the collective responsibility of the shared construction process.

Further discussions are underway as to possible changes to the representation of the group of elected representatives following amendments introduced by the 2014 and 2015 decentralisation laws.

Accordingly, the governance of water policy must constantly seek to progress and mirror policy implementations on the ground.