Water abstraction charges (Redevances pour prélèvement sur la ressource en eau) in France[i]

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Brief summary of the case

For more than 50 years water abstraction charges have been levied by the Water Agencies in France. The revenues from these levies are spent by the Agencies on investments in the protection and improvement of water resources (surface water and groundwater). The charge has to be paid by all those who abstract water (with some exemptions). The rates differ by Water Agency. The highest rates (up to a maximum of €0.10 per m^3) are levied on water used for drinking water.

The water abstraction charge reflects the 'water pays for water' principle and is generally accepted as a fair payment for the use of a scarce resource. The levy itself is too small to have a significant incentive impact on water consumption, but together with the water pollution levy (which is about three times higher) and the fact that a substantial part of the water bill is charged at a variable (per m^3) rate it provides an incentive for efficient water use.

Issues with respect to the water abstraction charge include:

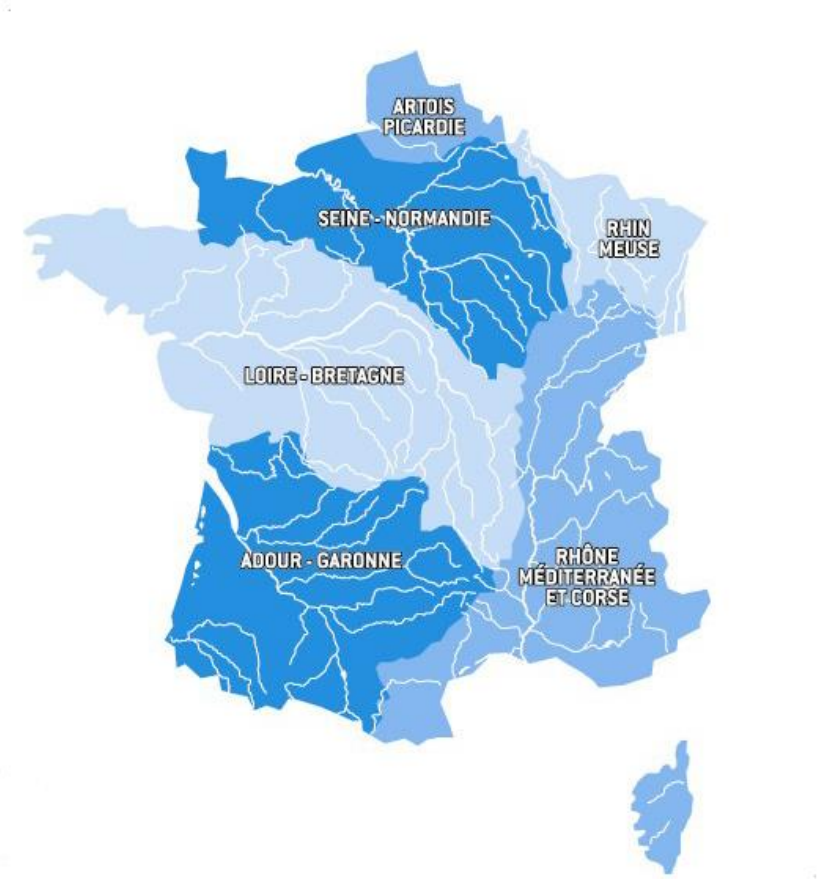
- The distribution of the burden between the types of water use (households paying much more than agriculture and industry); and
- The question of whether the Water Agencies should use their funds more as an instrument of national, results-orientated policy instead of merely providing financing to local initiatives.

1 Description of the design, scope and effectiveness of the instrument

1.1 Design of the instrument

Water abstraction charges were introduced in France in 1964, when the six 'Agences de l'eau' (Water Agencies) were created. These agencies, which cover the main river basins of mainland France (see map), are entrusted with the tasks of helping reduce pollution from all sources, and protecting the water resources and the aquatic environment (Les agences de l'eau, 2016). The fees are intended to collect revenues for the investment programmes of the water agencies (Strosser and Speck, 2004). Although the basic principles for the charge are the same, their implementation in the six water agencies differs.

Map: The six Water Agencies in France (overseas departments and territories not included)



Source: Agence d'Eau RMC (2016b)

The water abstraction fee is paid by natural and legal persons who abstract water above a certain threshold. The following abstraction types are exempted by law:

- Abstractions at sea;
- Drainage of closed mines, abstractions necessary for underground works, to keep buildings or constructions dry, or to lower the level of a groundwater table in accordance with an administrative order;
- Abstractions linked to aquaculture;
- Abstractions linked to the use of geothermal heat;
- Abstractions outside of the period of low water levels, for the replenishment of natural areas; and
- Abstractions related to antifreeze measures in perennial crops.

The threshold (which cannot be higher than 10,000 m^3 per year, or 7,000 m^3 in zones with water scarcity[1]) is determined by the water agencies. The rates are differentiated according to six types of usage determined by law, with maximum rates for each usage type (see table 1). Furthermore, the rates are differentiated by source (groundwater or surface water) and by zone, to take into account the relative water scarcity and the pressure that the abstraction puts on the available water resources. As a result, the rate per m^3 water abstracted can differ substantially. For example, the rates applied by the Water Agency Rhône-Méditerranée-Corse

[1] These zones ('zones de répartition des eaux', i.e. water repartition zones) are designated by the coordinating prefect of the river basin.

in 2016 range from €0.15 per 1,000 m^3 for canal filling in zones without a water deficit to €68.31 per 1,000 m^3 for drinking water in zones with a water deficit (Agence de l'Eau RMC, 2016a).

Table 1: Maximum rates of the water abstraction charge by type of use (€ per 1,000 m^3)

Type of use	**Zones with water scarcity (Zones de répartition des eaux)**	**Other zones**
Gravity irrigation	1.50	1.00*
Other irrigation	30.00	20.00*
Drinking water	100.00	90.00
Cooling water for power plants	5.00	3.50
Canal filling	0.30	0.15
Other economic uses	40.00	30.00

Source: Loi n° 2006-1772 du 30 décembre 2006 sur l'eau et les milieux aquatiques, article 84.
* Also in zones with water scarcity where the irrigation water allocation is done by a specific collective organisation.

1.2 Drivers and barriers of the instrument

The instrument has been in existence for more than 50 years. At the time of its introduction, it was part of a new water management system aimed at controlling both pollution and scarcity at the river basin level (Montginoul et al., 2015).

The current version of the charge was created by the 2006 Act on Water and the Aquatic Environment (Loi n° 2006-1772 du 30 décembre 2006 sur l'eau et les milieux aquatiques, LEMA). This act implemented several elements of the EU Water Framework Directive, including the financial elements (in particular the 'cost recovery' and 'adequate incentives' requirements of Article 9). Nevertheless, it has been criticised for not meeting the 'polluter pays' principle sufficiently. For example, according to the French Auditor's Office (Cour des comptes, 2010) 90% of the total revenues from the various charges introduced by the LEMA[2] (a total amount of €1.8 billion in 2008) was paid by consumers through their drinking water bill. This is far more than their share in water pollution and use of water resources (see also section 1.5). In addition, the Auditor's office concluded that the LEMA only provides a limited number of incentives for behavioural change among water users.

1.3 Revenue collection and use

The total amount of revenue from the water abstraction charges in France was estimated at €354 million in 2011 (EUWI, 2012). Between 2000 and 2010, the revenues fluctuated around €300 million per year (Bommelaer and Devaux, 2012). The money is earmarked for investments financed by the Water Agencies, according to the principle 'water pays for water'. The revenues are not tied to any specific type of expenditure, but are often used for environmental investments (Strosser et al., 2009, cited in EEA, 2013). For example, in 2007 the Water Agencies together spent €87 million on the protection and sanitation of soil,

[2] In addition to the water abstraction charge, there are several others, including charges on water pollution and for modernization of the sewer systems.

groundwater and surface water, and €64 million on the maintenance and restoration of the aquatic environment (Bommelaer and Devaux, 2012).

1.4 Environmental impacts and effectiveness

The water abstraction charge is not only intended as a source of financing for the Water Agencies, but also as an incentive to economise on water use (Bommelaer and Devaux, 2012). In practice, however, its impact on the amount of water used is almost negligible. For consumers of drinking water, the charge constitutes only a very small part of their water bill (generally less than 5%), although it is still specified by the water distribution company on the bill as a separate item entitled 'preservation of water resources' ('préservation des ressources en eau'). For agriculture, the water abstraction charge also constitutes just a few per cent of the irrigation costs, which is considered to be too low to provide incentives for sustainable water use (Arcadis et al., 2012). According to Montginoul et al. (2015) the charge level would need to be up to 20 times higher to provide a real incentive, which would cause opposition by the users.

The amount of water abstracted in France, especially for drinking water and irrigation, has been gradually declining since 2000 (apart from peaks in dry years such as 2003) (CGDD, 2009, 2016). However, (most of) this decline cannot be attributed to the water abstraction charge, given its 'micro-incentive' level. This does not mean that taxes and charges did not play any role in the observed reduction in water use. The water abstraction charge is just one of several charges paid by water users in France and included in their water bill.[3] The rate of the charge for water pollution, for instance, is much higher than for the water abstraction rate. Moreover, the 2006 water law (LEMA) ensures that a substantial part of a household's water bill is charged at a variable (i.e. per m^3) rate (Montginoul et al., 2015). In this sense, one could say that the water abstraction charge is a (small) building block in the French water pricing structure that contains at least some incentives for water conservation.

When it comes to the effectiveness of the charge as a financing instrument, the French Court of Auditors (Cour des comptes, 2010) noted that the Water Agencies tend to stick to their original role as a kind of 'mutualist bank', providing financing to local initiatives, than as an instrument of national, results-orientated policy. The Agencies were not used to being selective and setting priorities, but rather acted as an 'open counter' offering subsidies and low-interest loans to a plethora of small wastewater treatment plants and drinking water production installations. The challenges of the WFD forced them to change that attitude, but according to the Court of Auditors progress was slow.

1.5 Other impacts

In the past, the contribution from agriculture to the water charges in France was disproportionately low. After the introduction of the LEMA (which also created new charges, among others on diffuse pollution) this bias has been reduced (Cour des comptes, 2010).

[3] It is also specified as a visible separate item on the water bill. However, according to Montginoul (2016) it is doubtful if users fully understand the components of their water bill. Surveys asking them to specify the elements composing the water bill show that they distinguish three main parts: (1) water, (2) sewage service delivery and (3) 'taxes' in general (they hardly seem to understand the difference between sub-categories).

Nevertheless, there is still a substantial imbalance between the contribution of the different sectors to the revenues from the water abstraction charge and the amount of water abstracted (see table 2).

Table 2: Contribution by sectors to revenues from water abstraction charge and share in water abstraction (excluding hydropower, cooling and canal filling) (2009)

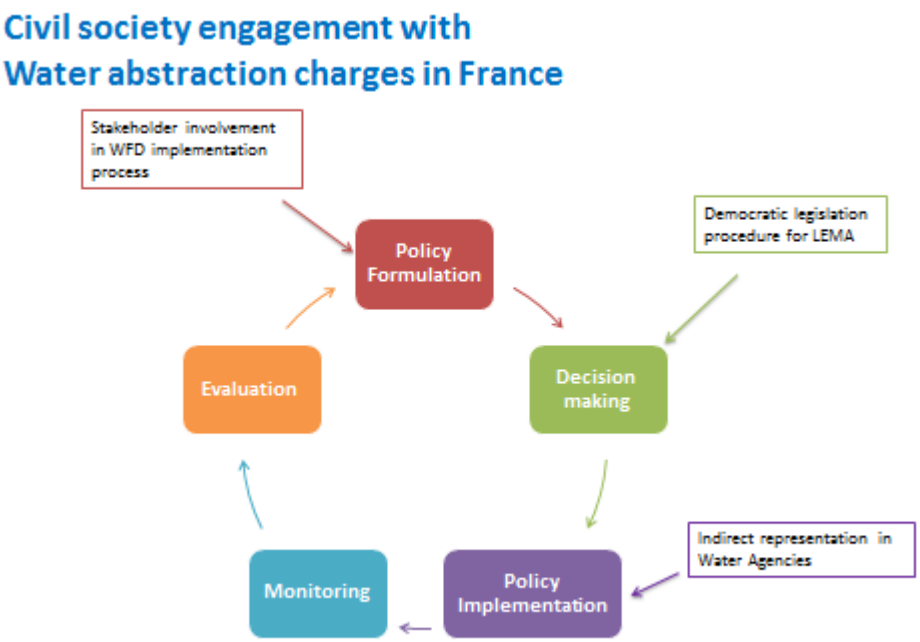
Water use sector	**Contribution to water abstraction charge revenues**	**Share in water abstraction**
Households	80%	43%
Agriculture	6%	23%
Other economic uses	13%	34%

Source: Calculated on the basis of CGDD (2012b).

2 Stakeholder engagement

Whereas the main features of the charge (including thresholds and ceilings) are determined by law (the LEMA), the Water Agencies can decide on matters such as the exact rates, the zones, and the use of revenues (within their remit). Stakeholders are represented in the Water Agencies in an indirect way: the administrators of the agencies are appointed by the catchment committee (Comité de bassin) and by the State. The catchment committees bring together regional, departmental and local councillors, users' representatives, associations and the State (Ministry of Ecology, Sustainable Development, Transport and Housing, 2012).

Stakeholder involvement in issues relating to the water abstraction charge therefore occurs mainly indirectly, through their representatives (see figure below). In general, the principle that through this charge the scarcity of water as a resource is reflected, and users are paying for this scarce resource in relation to the extent to which they use it, seems to be widely accepted. Discussions mainly relate to the level of the water bill in general (including all taxes and charges) and the distribution of its components among different user groups (see also section 4.2).



3 Windows of opportunity

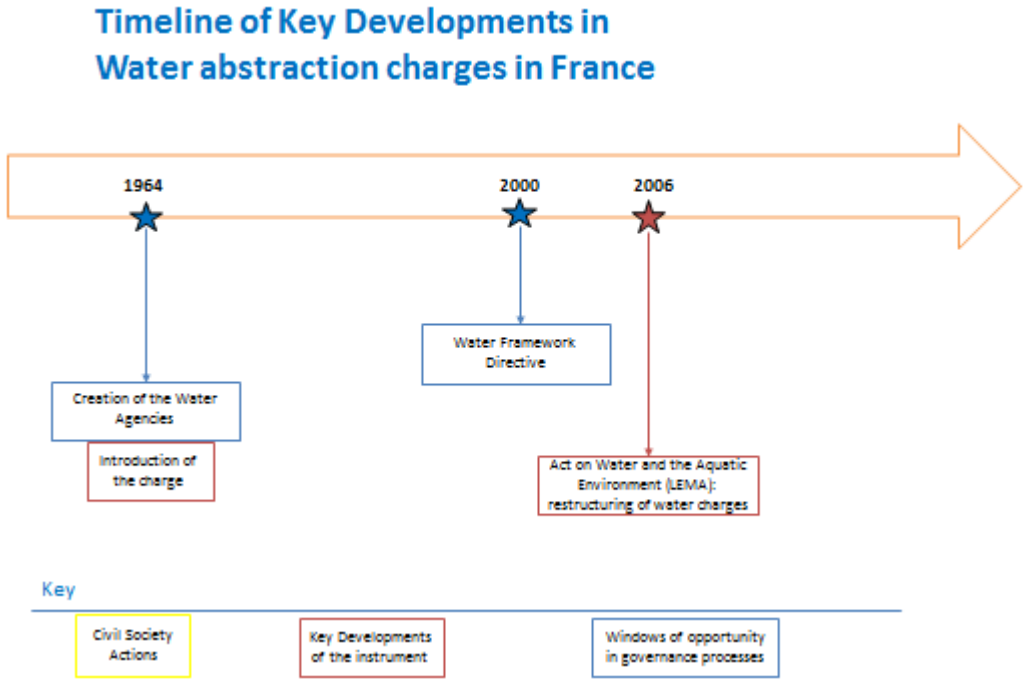
Two main windows of opportunity can be distinguished that have determined the development of the French water abstraction charge. Its introduction in the early 1960s can be related to the expansion of the Gaullist planning approach[4] to areas such as regional and urban planning (Montginoul et al., 2015). Water scarcity and pollution necessitated large investments, which would be prioritized by the Comités de bassin under 5-year planning programmes. These investments were to be financed partially by means of subsidies and soft loans, administered by the Water Agencies. The sources of finance of the Water Agencies became the water abstraction charge as well as the (much larger) water pollution charge.[5]

The second window of opportunity was the national implementation of the EU Water Framework Directive. This led to the LEMA, the 2006 act that adapted the structure of the existing charges and also introduced a number of additional ones, to better reflect the requirements of the WFD concerning the pricing of water services.

The figure below shows these developments in a timeline.

[4] Post-war France had an economic system of 'indicative planning' that included five year plans with strategic objectives and priorities (rather than setting binding targets such as the Soviet style five year plans).

[5] Whereas the Water Agency Rhône-Méditerranée-Corse applied a maximum rate for the water abstraction charge of €0.06 per m^3 in 2013 (Agence de l'Eau RMC, 2016a), the rate for the domestic water pollution charge was €0.23 per m^3 (Montginoul et al., 2015). The total revenues from both charges (for France as a whole) also suggest a difference of about a factor of 4: €346 million in 2012 for the water abstraction charge and €1,325 million for the domestic water pollution charge. This difference in size of the charges can be seen as a reflection of the difference in investment needs between quantitative and qualitative water management.



4 Insights into future potential/reform

4.1 Actual Planned reforms and stakeholder engagement

The French water abstraction charge is a well established and relatively uncontroversial instrument. It fits well within the framework of the requirements of the Water Framework Directive, as it is a specific payment for the resource costs involved in water use. The proceeds from the charge (together with those from the charges on water pollution) are used to finance the activities of the Water Agencies, which reflects the generally accepted principle of 'water pays for water'. At this moment, no reforms are planned.

4.2 Suggestions for future reforms – instrument design and civil society engagement

The charge can be seen as one element of an elaborate financing structure for water investments. Its role in providing incentives for more efficient water use (together with other variable elements of the water bill) is a modest one, and likely to remain so. The most obvious priority for possible future reform is likely to be a more balanced distribution of the charge burden between water using sectors. However, given the opposition that can be expected if (for instance) irrigation water were to be charged at a much higher rate, the political limits for drastic changes are clear.

Stakeholder involvement in the Water Agencies takes place through the Catchment committees. There are no indications that particular stakeholders or groups feel unrepresented or underrepresented.

4.3 Suggestions for replicability

The French water abstraction charge is linked to the specific system that the French legislator has chosen for the financing of investments in water quality and quantity management. This system, in which the Water Agencies are primarily funding entities for investments by others, may not be replicable in other countries with a different water management system. However, some elements of the charge can be considered as exemplary in meeting the WFD requirements of 'cost recovery' and 'adequate incentives'.

Firstly, the 'water pays for water' principle underlying the charge ensures a close relationship between water use and the financing for the protection of water resources. This may also contribute to the perceived legitimacy and acceptance of the instrument.

Secondly, the fact that the charge is proportional to the amount of water abstracted (although differentiated between types of use and water scarcity zones) implies that there is at least a basic incentive (admittedly very small) to save water: each additional m^3 abstracted has to be paid for; the marginal cost of water use is never zero (except for the exempted uses). This (micro-)incentive is passed on along the value chain (at least for households and industry), together with the other (more substantial) variable components of the water bill.

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