



Economic models for water management and pricing in Europe: the case of Ireland

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On behalf of Europa

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1. GENERAL INTRODUCTION

This document describes the situation in Ireland with regard to water management and pricing. It is part of a global project which includes the analysis of the situation in seven European countries (France, the Netherlands, Romania, Germany, Spain, Latvia and Ireland studied here) carried out with the aim of producing a publication intended for territorial decision-makers and whose subject is the following: "*The management of economic models and the pricing of drinking water services in the face of the need to save water*".

Ireland has an area of 70,280 km² with a population of 5,060,005 inhabitants and a moderate population density, 72 people per km². The GDP per capita in 2021 is 84,940 €.

Generally in Ireland, water resources are abundant and 83% of drinking water comes from surface water. While it is estimated that the Irish consume 130 to 160 liters per person, per day (CIEAU, s.d.), or 142 l/day/inhabitant (activeau, s.d.), it appeared that 93% of households only used around 250 liters per day. According to figures from the CSO (Central Statistics Office), an average household has three people, which means usage is just over 80 liters per person (CSO, s.d.).

2. THE POLITICAL FRAMEWORK

2.1 Institutional organization in Ireland

2.1.1 Historical development

In the past, Ireland gave its inhabitants access to domestic water services free of charge. Until the 1950s piped water supply existed only in towns in Ireland and public supply in rural areas consisted of village pumps. The deployment of piped water supply in rural areas has in some respects mirrored rural electrification, but has been a slower pace in its development. In 1971, 58% of rural households had a piped water supply, and many still depended on individual wells.(TOBIN, s.d.)

Domestic water charges were first abolished in Ireland in 1977 by a Fianna government Fáil , however, was a source of funding for local counties. In order to compensate for this loss, the Taoiseach (Prime Minister) Jack Lynch then passed a rise in VAT and income tax to support the counties.

The royalties were reintroduced in 1985 to come up against strong opposition: public demonstrations, campaign of non-payment... The opposition continued and, in 1996, royalties on domestic water were entirely abolished. It is decided that funding for water services should come from general taxation, with 50 million £ to be taken from car taxes for water services. (Murphy, 2019)

The bulk of local government revenue comes from block grants granted by the Ministry of Finance. All water-related expenditures are financed by these allocations.

Local authorities have access, through the Housing Finance Agency, to credit mechanisms which enable them to cover the investment expenditure linked to services to commercial users, who pay financial contributions over time.(OCDE, 2010)

Following a law passed in 2009, the Irish government put an end to free water for domestic use with the reinstatement of water charges. He affirms that the hydraulic infrastructures need to be modernized and that it is necessary to start charging again for domestic water. He argues that domestic water charges will finance investments and encourage water savings. Consumers will thus have to pay for the water consumed as soon as the meters are installed in the 1.1 million homes.

In summer 2009, after lengthy negotiations following legislative elections in which the country's two major traditional parties, Fine Gael and Fianna Fáil , an agreement had been reached on the formation of a government without a parliamentary majority and on the temporary suspension of the new water taxation system. This truce was to allow an independent commission to re-examine this very controversial file.

The latter then submitted its report: for the vast majority of Irish people (approximately 92%), the water service becomes free again and only uses that are 70% higher than the average domestic consumption will be taxed (explained in 4.3.2).

In 2010, Cabinet documents given to state radio, RTÉ, show that the government is in favor of metered water pricing of 330-500 € and that the homeowner will also pay the cost of the water meter. It is decided that a "national water agency" will be created and that this new agency will keep the minimum staff and outsource the functions requiring the most manpower. This was two months before the government officially requested financial assistance from the EU and the IMF.

Special allowances should be provided for larger families or in exceptionally precarious situations. If the house is not equipped with a water meter, domestic consumption is based on a rate linked to the number of users in the house.

The new provisions provide that the meters installed so far will continue to be used for consumption measurements, that households which do not have them should not be obliged to install them but will be encouraged to do so, and that any new construction will henceforth be equipped with it. Households that have had to pay taxes under the fee system that has just been abolished should also be reimbursed according to terms that remain to be defined.

The European Commission recalls that removing the bill is in contradiction with the European directives concerning water policy. "Ireland is committed to introducing a water bill," the Commission explained. Currently, the Irish consumer must pay individually for their water consumption. According to European directives, it is forbidden to return to the old way of financing water supply. The European Commissioner for the Environment, Karmenu Vella (Social Democrat), has threatened the state with fines and sanctions if the Irish

Parliament votes against the water bill. Despite this pressure, the Irish want the water service to keep public property.

To date, water supply and sewerage services in Ireland are primarily governed by the Water Services Acts 2007 to 2014 and regulated by the Energy Regulatory Commission. Until 2015, relevant legislation provided for the provision of water and sewerage services by local authorities in Ireland, with domestic use funded indirectly through central taxation (including car taxation) and non-domestic financed by local authority tariffs.

Incorporated in July 2013 as a corporation under the Water Services Act 2013, Irish Water (IW) brought together the water and sewerage services of 31 local authorities under one national service provider the January 1, 2014. This is responsible for the operation of all public water and sanitation services, including:

- National Asset Management
- Maintenance of the water and waste water system
- Investment and planning
- Investment project management
- Customer service and billing

The company is also responsible for all capital investment decisions and implementation of capital program delivery across the country. The transition between these models, and some aspects of the new company's operation, caused controversy in its initial period of operation.

➤ **Arguments put forward for restoring water billing:**

The restoration of the water bill is first of all encouraged by the European directives, which provide for a water services market open to competition, in each EU member country, and therefore, just like EDF with electricity in France.

The fiscal pressure, following the 2007 crisis and the need to drastically reduce expenditure, favor this water pricing. Especially since the Irish population is growing over the long term, while rainfall and water resources are shrinking.

Sanitary imperatives are finally the ultimate aspect of this pricing: Ireland has in fact been condemned several times by the Commission of Justice of the European Union (CJEU) (2002, then 2008 following a warning in 2007) for the low quality of water treatment. Although the water service was improved in 2008 following these reproaches, the establishment of competition in the treatment and distribution of water by private companies should lead to an increase in the quality of treatment, and better sanitary conditions for the largest agglomerations. (Fondapol, 2014).

➤ **Disputes and criticisms of the pricing system**

In 2014 and 2015, local protests were encouraged by people across the country. Opponents of the plans physically blocked the installation of water meters and demonstrated against the introduction of water charges. A protest that took place in Dublin on October 11, 2014 involved around 130,000 people (4% of the Irish population). The Irish Times newspaper conducted a poll the previous week which found that 33% of people intended to boycott

water charges. Further protests took place in major provincial towns in November 2014, and on 10 December 2014 around 100,000 people protested in Dublin against water charges. Community groups formed to oppose water meters also reportedly physically removed water meters in the days following the protest.

Water charges were suspended in the months following the election and a “commission of experts on the financing of water services” was created to assess the issue. This published a report on 29 November 2016 which recommended that normal household water use should be paid for by taxes, with excessive use being paid for by the consumer under a “polluter pays” model. (Update 2016); (O'Halloran, 2016)

Since January 1, 2015, each household had to pay for its actual consumption, which involved, among other things, the installation of meters in each building. With these meters the user thus pays for what he consumes, however, a reduction in tax equivalent to the budget devoted to water has not been announced. In certain working-class neighborhoods, half of the local residents then took to the streets each time to prevent the installation of meters, declaring that they were already paying for these services through their taxes. In addition, almost half of Irish people refuse to pay first bills. The courts are unable to process the very large number of lawsuits. (Murphy, 2019)

After several years of fighting against the installation of residential water meters and against charges on domestic water, the right2water Ireland campaign won in 2017 neither a permanent stop to the installation of meters nor the removal royalties that have just been postponed, nor the end of Irish Water (IW). Europeanwater)

2.2 The institutional organization for the small water cycle

2.2.1 *The public drinking water service*

82% of Irish people get their drinking water from Irish Water (IW) and approximately 65% have access to sanitation. (Casey, 2022) Until 2015, legislation provided for the provision of water and sanitation services by local authorities, with domestic use financed by central taxation (Public Treasury), and non-domestic use financed by utility tariffs. local communities. In 2013, the annual investment in water supply and sanitation was 71€/inhabitant. (Gouvernement d'Irlande)

Prior to IW, domestic use was free and the tariff for non-domestic use was set by each local authority (without national rules). Since its inception, IW has introduced a harmonized national non-domestic tariff to replace the wide range of tariffs in each local authority area. While sewage tariffs have been mainly flow-based until now, IW intends to introduce further changes in the coming years so that the non-domestic sewage tariff correctly reflects flow and charge. The company will also introduce overage charges for domestic customers.

IW is the water company in the Republic of Ireland created through the Water Services Act (2013). IW took over responsibility for the provision of water services to 31 local authorities on January 1, 2014. The transfer of assets (infrastructure) was free of charge (from one

public body to another). A 12-year Service Level Agreement (SLA) has been entered into between IW and each of the local authorities. Under the SLA, operational water utility staff continue to be employed by the local authority, providing operational services to IW. A process is underway in 2022 to end the SLA, so that local authority water service staff will be transferred to IW or under the direct management of IW from 2023. (Casey, 2022)

Public water lines are administered and maintained by IW, but local authorities provide certain services on IW's behalf through service level agreements.

The Department of Housing, Local Government and Heritage funds the provision and upgrading of projects in water and sanitation services. IW administers the actual construction of public water supply projects. Water tests are carried out on all public waters by local authorities and the results are provided to the Environmental Protection Agency (EPA) annually. The EPA publishes an annual drinking water quality report based on this data. It also provides advice to local authorities on the implementation of the Framework Directive (WFD) and drinking water regulations, and audits drinking water operations at local authority level.

The Environmental Protection Agency (EPA) is responsible for environmental regulation of water-related activities and water quality. She is the environmental regulator. With respect to IW, it regulates:

- The quality of drinking water;
- The treatment of wastewater by IW and its discharges into water bodies.

It is the Irish Government that assesses the transfer of responsibility for water services, provided by local authorities to a water utility. This assessment takes into account the optimal role and functions of the proposed water company and the most efficient allocation of functions and structural arrangements to provide high quality water services at competitive prices to domestic and non-domestic customers, and for the provision of infrastructure. (EPA, s.d.)

2.2.2 The distribution of drinking water

IW consolidates local government water and wastewater services under one national service provider. Since January 1, 2014, IW has become responsible for all public water supply services, involving the supply of drinking water and the collection, treatment and disposal of waste water. IW aims to present an operating model to deliver water services efficiently and effectively. IW controls all assets, revenues, costs with better economy of scale. As a single point of contact for regulators (CRU: Commission for Regulation of Utilities and EPA), it facilitates their action to regulate, as opposed to the complexity of the previous system. It also facilitates the implementation of national strategies; not restricted by local authority limits or non-water related activities.(Ireland)

In addition to providing the capital investment plan, IW is responsible for the day-to-day operation and maintenance of the national water service systems and infrastructure. These

services are provided in partnership with 31 local authorities, acting as agents of IW, under 12-year Service Level Agreements that came into effect in 2014 and will remain in place until the detailed blueprint for the next stage of water industry transformation is agreed. (UISCE, 2018)

➤ **Perceived limits:**

Public concerns about operational issues, documentation, business responsiveness, data security, financial matters, and perceived wasteful spending were highlighted throughout the first months of the subsidiary's operations. Combined with privatization fears, these public concerns led to a high volume of unreturned application forms, large nationwide protests and pressure on company management and the government in 2014. arrears, and an unfavorable assessment of the organization's viability as an independent entity have further heightened attention and calls from some to disband the organization. The viability of the public service was also a feature before the 2016 general elections, and post-election discussions on government formation. (Stephen Maguire, 2014) (EPA, 2020)

➤ IW's main sources of income are:

- Non-domestic revenue
- government grants and
- Revenue from new connections (UISCE, 2018)

2.2.3 *Rural supply*

12% of Irish people get their drinking water from private wells and small private supplies. 6% of the population receives drinking water through collective water supply systems, which are managed by collective networks (community-runs). (Ireland G. o., s.d.) Of these, about 70% obtain their water from private collective systems, which have a private spring water supply. The remaining systems get their water from an IW connection.

The National Federation of Community Water Supply Systems (NFGWS) is the representative organization for private and public community water supply systems in Ireland. The NFGWS was established to represent the interests of members of collective water supply systems and to provide advisory, training, development and other services to members of the system. (Information, s.d.)

Private or public collective water supply systems are found in rural areas and are not part of centralized public networks. A collective system is a system providing water or sanitation services to two or more households not connected to centralized water supply and/or wastewater collection systems. Collective systems are private or public, depending on whether their water comes from the public network or from a private source. The 2011 EPA report on the quality of drinking water in Ireland stated that there were 1,129 collective water supply systems, serving 7% of the public, covered by drinking water regulations.

Unlike public water supply or group water supply, water utility authorities do not test the drinking water quality of private water supplies. Well water testing is the responsibility of

the user and should be performed regularly to ensure that the quality of drinking water is high.

The user must pay for his water if he belongs to a private collective water system. However, local authorities provide subsidies for each house under a collective program (“Subsidies for wells and collective water supply schemes”). Local authorities are responsible for testing the water supply and ensuring that it is safe to drink, but they are not responsible for maintaining the pipes and filtration systems of the collective system.

If the members of a water group want the community to take over the management of the scheme, they must sign a waiver to allow the community staff on their land to maintain the pipes, etc. The group must provide the community with a plan of the piping systems and give them access to the pipes. If the local authority takes over the project, then it is responsible for the maintenance of the water system. However, if a collective water system remains completely private, it can obtain subsidized technical assistance from the local authority for the necessary upgrading works.

2.2.3.1 Funding

Group Water Scheme - GWS (private owned and operated systems) set their own tariffs for non-domestic connections usually based on metered usage. In addition, systems have “new connections” fees set by the local GWS board/committee and agreed to by members.

To ensure equity for the rural water sector: 2 grants are provided by the Department of Housing, Local Government and Heritage (DHLGH), an operational grant payment and capital funding for specific measures within the framework of the rural water supply programme. Subsidies and capital grants are levied through the relevant local authority.

2.2.3.2 Private group plans

Private Group Schemes (PGS) obtain water from a local source and manage the treatment and distribution of water to the member system. There are approximately 380 private group plans serving nearly 200,000 people. The NFGWS helps local communities and individual collective water supply systems identify and address quality issues and risks (farm animals that could access the water source and contaminate it). In Ireland, the protection perimeter corresponds to 300m for the first zone, then the entire catchment area. (ONEMA, 2015)NFGWS also assists schemes to access funding from the Department of Housing, Local Government and Heritage, represented by Darragh O’Brien.

More than 400 community water supply systems have affiliated members of the NFGWS, to which the Federation provides support services, such as advice, mentoring and training.

2.2.3.3 Subsidies for private water supply

Under the Rural Water Supply Program, grants are available to improve private water supply for people in rural areas where they do not have access to public water supply. A private water supply provides water to a home and is often a well.

To benefit from a subsidy, the house must be more than 7 years old and not be attached to a public or collective plan. Subsidies can be obtained by users for:

- Repairing a Private Water Supply: This grant covers 85% of the approved costs of well rehabilitation work, up to a maximum of 3,000 €.
- Install a new well: covering 85% of the costs of a new well, up to 5,000 €. The local authority must agree that a new well is the most appropriate solution.
- Improving water quality: Covering 100% of approved costs for improving water quality in wells, up to a maximum of 1,000 €.

2.2.3.4 Subsidies for collective water supply systems

Subsidies are available from the local authority if 2 or more households come together to provide their homes and farms with a water system where none exists. A committee representing the members is responsible for the proposal and the local authority must approve it. The amount of subsidy payable depends on the location of the plan. It is then necessary to check with the relevant local authority for the details of the region. Typically, a grant will cover 85% of the cost, with a limit of 7,650 € for each house in the program. Group members must cover the balance, but costs can be reduced if members can do some of the work themselves.

An annual subsidy, to be approved by the local authority, is available for the running costs of the collective water supply system. This is:

- Up to 115 € for each house powered by a public source (IW)
- Up to 231 € for each house supplied by a private source (private well, lake, etc.)
- Up to 100 € per house for programs with less than 100 houses, agreeing to work on a merger or a strategy leading them to form a new entity.

2.3 Sanitation service

2.3.1 Wastewater treatments

Local authorities are responsible for stormwater management as well as certain WFD obligations relating to river basin management, river pollution, etc. When wastewater enters the public system, it is transferred to one of the treatment plants operated by IW. (OiEau, 2020)

Since most of the process relies on gravity, many treatment plants are located in low areas. Some are not located in low areas, requiring pumps or lifting stations to move wastewater upwards. Several of the combined sewers are frequently overloaded during periods of heavy rain resulting in the flooding of some properties and giving rise to overflows which can cause pollution of rivers and streams. (IW, s.d.)

The proportion of wastewater discharges where secondary treatment facilities were provided increased significantly, from 26% between 1998 and 1999 to 93% in 2011. This was

mainly due to the establishment of new wastewater treatment plants notably in Ringsend (Dublin).

In October 2009, the European Court of Justice ruled against Ireland over septic tanks and other on-site sewage treatment systems. It found Ireland non-compliant with Articles 4 and 8 of the Waste Directive with regard to domestic waste water discharged into the countryside. Ireland was fined 2 million euros and the court imposed daily fines of 12,000 € for each day of delay in compliance.

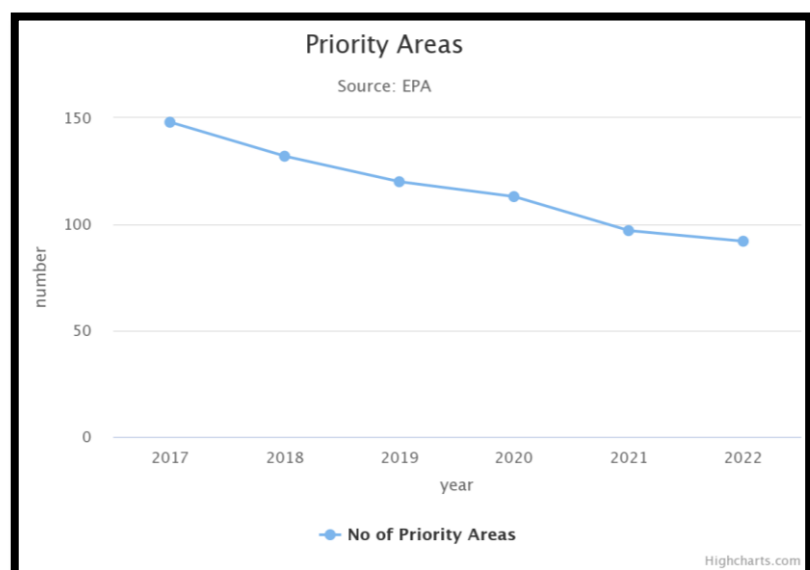
According to a 2011 EPA report, 11 of the 174 settlements covered by the Urban Wastewater Treatment Directive did not have the required level of wastewater treatment, but were expected to have secondary treatment by 2015. In 2011, while 66% of households were connected to the public sanitation network, mostly in urban areas, 27.5% of households used an individual septic tank (only allowing pre-treatment) and 3% adopted other individual sanitation systems.(Office, s.d.) In 2016, the wastewater collection target was achieved. However, Ireland has not achieved the wastewater treatment target and compliance with treatment, especially more stringent treatment, is very low.

2.3.2 Compliance

Since the previous review published by the OECD in 2000, Ireland has made significant investments in water and sanitation infrastructure. Most areas sensitive to eutrophication are now served by treatment plants ensuring the elimination of nutrients. The country has also improved the institutional framework for water management by adopting a new law on water services, as well as more than a dozen new regulations (mostly transposing EU directives) .

In 2016, Ireland had 185 urban wastewater agglomerations with more than 2,000 population equivalent (PE). These agglomerations generated a total load of 5,080,615 PE, of which 96% of this load is connected to collection networks and 4% addressed by Individual and Appropriate Systems (storage or septic tanks, micro-stations, etc.) . These agglomerations are connected to 2 primary treatment stations, 56 secondary treatment stations and 121 more severe treatment stations. All these treatment plants have a total design capacity of 5,541,664 pe. (OiEau, s.d.).

IW is making progress in addressing environmental issues and the number of



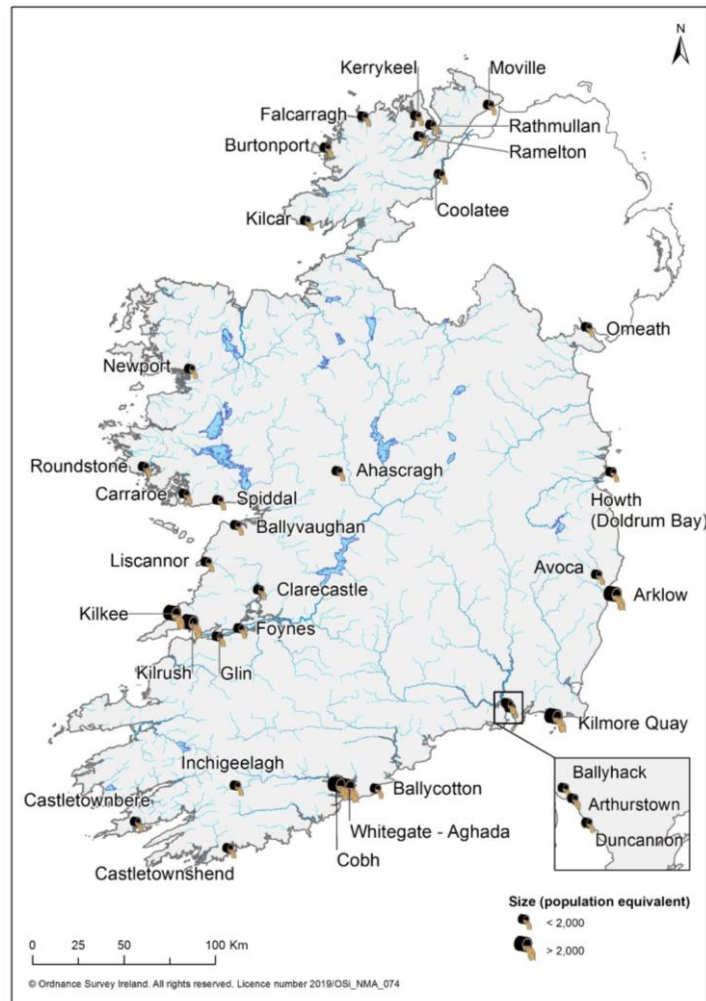
priority areas has increased from 148 to 92 from 2017 to 2022.

Figure 1: Priority areas where treatment needs improvement. Source: (EPA, 2022)

There have been further delays in the treatment of many of the 34 towns and villages discharging raw sewage and as a result more than a third of these areas will not be treated until 2024. (EPA, 2021)

Investment in wastewater treatment infrastructure brings environmental benefits to some regions. The number of major cities failing to meet EU treatment standards fell from 28 in 2017 to 12 in 2020. However, the deadline for all major urban areas to meet these treatment standards was 2005.

Figure 2: Towns and villages discharging raw wastewater into the environment every day in 2020 because they do not have WWTPs. Source: (EPA, 2021)



2.4 The implementation of public water and sanitation services

2.4.1 Management mode

Public water lines are administered and maintained by IW, but local authorities provide certain services on IW's behalf through service level agreements. The newly created company effectively took over existing local authority employees and water management facilities, pipelines and infrastructure. Operationally, IW delegates certain tasks, such as the installation of water meters and customer support, to subcontractors.

The Department of Housing, Local Government and Heritage funds the provision and upgrading of projects for water and sanitation services. IW administers the actual

construction of public water supply projects. Rigorous water tests are carried out on all public waters by local authorities and the results are provided to the EPA annually.

2.4.2 Domestic wastewater treatment systems (septic tanks)

Many rural properties have their own private sewage collection system; the most widespread system is the septic tank. It is a large concrete or steel tank buried inside or at the edge of a property.

Waste water from these properties does not enter the public sewer system, but is treated on site and excess sludge is periodically removed for further treatment by a licensed private contractor. These septic tanks are therefore not autonomous but rather watertight tanks.

The maintenance and liability of this system is beyond the competence of IW. Any household that uses a septic tank for waste disposal will not be an IW sewage customer, but may be a water supply customer.

Households connected to domestic sewage treatment systems are required to register their systems in accordance with the Domestic Sewage Treatment Systems Regulations 2012 (SI No 220), as amended by Wastewater Treatment Systems domestic waste (SI Regulation No. 180 of 2013). This includes households connected to septic tanks and similar systems.

Households can register and pay online by creating an account on the Protect Our Water website or in person at their local office (€50 registration fee). Owners not yet registered should do so as soon as possible as it is an offense for an owner not to register and if found guilty the penalty is a fine of up to €5,000. The fee covers the costs of administering the register and managing inspections carried out under the Water Services Act 2012.

The registration was introduced in response to a European Court of Justice ruling against Ireland in October 2009. More importantly, it will help protect the quality of ground and surface water, especially drinking water sources, against the risks posed by faulty systems. (Ireland G. o., s.d.)

2.4.2.1 Inspections and performance standards

The basic standard expected of all domestic wastewater treatment systems is that they pose no risk to human health or the environment. Inspections are carried out to identify treatment systems that do not meet this standard. Regardless of the age or type of system in place, if there is no evidence of risk to human health or the environment, no action is required. There is no question of imposing modern standards on older systems, nor of forcing owners to acquire additional land to remediate systems resulting from an inspection. When an on-site system fails an inspection, the remedial work required is based on factors such as: the nature of the problem; the magnitude of the risk to public health or the environment and the size of the existing site and the hydrological and geological conditions present

2.4.2.2 Financial aid

A grant may be available to help with the remediation, repair or improvement or replacement of a domestic sewage treatment system that serves a home. Grants are available through

Grant schemes are administered by local authorities on behalf of the county, users should contact the rural water section of their local authority for the application form and further information. (Ireland G. o., s.d.)

2.4.3 Regulations

In carrying out its role as the national water utility, responsible for the operation and investment of water services, Irish Water is regulated by:

- The economic regulator, the Energy Regulatory Commission (CER) is responsible for protecting the interests of the customer, while approving an appropriate funding requirement sufficient to enable the utility to provide the required services to the specified standards in an efficient manner . It makes proposals for tariffs for using the networks, has a monitoring role, etc.
- The environmental regulator, the Environmental Protection Agency (EPA) is responsible for enforcing the Drinking Water Regulations for public water supplies. In addition, the EPA produces an annual report on water quality in public and private water supplies. Reports are based on evaluation of monitoring results reported to EPA by IW and local authorities.

2.4.4 Monitoring and regulation

Water utility boards were historically responsible for monitoring drinking water. Local authorities were responsible for testing the water quality, in conjunction with the Local Health Office (HSE). Under the Drinking Water Regulations of 2007, the EPA has oversight powers for public water supplies and can direct a water utility authority to improve the management or quality of a supply. public in water. When the EPA finds deficiencies, it makes recommendations on what actions the water utility authority should take to address them. Similarly, water utility authorities have an oversight role with respect to community water systems and private supplies, and notify EPA of drinking water non-compliances or health risks. public health of a public water supply.

Prior to 2013, there was no economic regulator for water supply and sewerage in Ireland. Under the Water Services Act No. 2 of 2013, the Energy Regulatory Commission was given the power to advise the Minister for the Environment, Community and Local Government on the development and to become the economic regulator of water services.

2.5 Legislative framework

The Sewage Discharge (Licensing) Regulations 2007 require that all discharges from sewage collection systems and treatment plants nationwide which serve a settlement of more than 500 pe be issued with a discharge license EPA wastewater. Discharge permits set out compliance and monitoring requirements for discharges of treated effluent to the receiving watercourse.

The discharge permit/certificate sets the authorized emission limit value for a discharge depending on the status of the receiving water body, including its conservation status in relation to the Birds and Habitats Directives. All discharges from sewage collection systems and treatment plants that serve a population area of less than 500 pe must be issued with an EPA sewage discharge certificate.

Regulations made under the Water Services Act also apply to water restrictions during times of water shortage. IW may order the cessation or restriction of water use for:

- Watering gardens, leisure parks or sports fields
- Car and trailer washing (including by commercial facilities)
- Filling of swimming pools, ponds and lakes
- Irrigate crops.

IW was incorporated in July 2013 as a semi-state company under the Water Services Act 2013. The law defines the terms of governance and financing of the company in addition to the requirements relating to water metering.

The Water Services Act 2013 (No. 2) provides for the transfer of water services functions and infrastructure assets from local authorities to IW. This law also gives IW the power to charge all customers who receive water and wastewater utility services and requires IW to submit a customer billing plan for the provision of water services to the Water Commission. Energy Regulation (CER) For approval. The REB has been given responsibility for approving a code or codes of practice dealing with the standards of performance to be achieved by IW in carrying out its duties. (IW, Plan stratégique, 2015)

3. THE ECONOMIC MODEL OF WATER SERVICES:

3.1 Funding

Funding for the maintenance and improvement of water supply and sanitation infrastructure comes from the Department of Environment, Communities and Local Government.(Information, s.d.)

Under the Water Services Act 2017, IW is required to submit a strategic finance plan to the Minister within three months of the publication of the Water Services Policy Statement. This Strategic Funding Plan (2019-2024) reflects the principles, themes and policy objectives identified in the Water Utilities Policy Statement and the strategic objectives outlined in the Water Utilities Strategic Plan. It describes the costs, both operational and capital, associated with the arrangements that IW proposes to make and the measures that it intends to take to implement the objectives of the water services strategic plan (to ensure effective management wastewater, ensuring a safe and reliable water supply, supporting social and economic growth, etc.).(IW, 2019)

IW's strategic funding plan defines IW's multi-year strategic funding requirement of €11 billion until 2024, consisting of €6.1 billion investment in infrastructure and assets and 4.9 billion euros in operating costs. This funding requirement will be met through a combination of non-domestic revenues, overuse charges, government grants, non-domestic borrowings and capital contributions.

4. PRINCIPLES OF WATER PRICING IN IRELAND FOR HOUSEHOLDS

4.1 The rates

In 2013, 326 million euros was allocated by the Department of Environment, Community and Local Government for water infrastructure expenditure (71 € per capita). In July 2014, the CER announced that the standard tariff for water services would include 30 m³ per year of free basic water, after which 4.88 €/m³ including tax would be charged.

Prior to the establishment of IW, all domestic water charges in urban areas of Ireland were paid from general taxation. Members of collective rural water supply systems usually pay with a tariff per cubic meter. Households were to receive a free allocation, with charges based on metered usage on top of the free allocation. Environment Minister Phil Hogan said that households without a meter when the charges were introduced would be charged on an assessed basis (type of accommodation, number of residents, etc.).

Non-residential customers pay a combined fee for water and sewage. Local authorities set the tariffs. In 2013, the average national water tariff was 1.13 €/m³. The average national sewerage tariff was 1.19 €/m³. The average combined tariff is 2.37 €/m³. Some tariff variations exist: Kildare County Council having a combined tariff of 1.59 €/m³, against 3.04 €/m³ charged by Wicklow County Council.

4.2 The different types of royalties

4.2.1 Water Services Act 2014

“Subject to this section (other than subsection (16)), IW, during the period of January 1, 2015 through December 31, 2018, will bill for the provision of water services for each year during that period:

- to accommodation which is occupied by no more than one adult as their main private residence, no more than 160 €,*
- to accommodation occupied by 2 or more adults as their main private residence, not more than 260 €, and*
- to a dwelling which is occupied by a person as a place of his private residence but which is not his principal private residence, or to premises which, if occupied, would constitute a dwelling, not more than 260 €. » (d'Irlande, s.d.)*

4.2.2 Household water conservation charges

In accordance with its legislative functions, the Board conducted a public consultation on IW's proposal and solicited feedback from customers and stakeholders. After review, the Board approved IW's proposal and on July 17, 2019, issued a decision document on IW's overage fee proposals.

The CRU then approved:

- Evaluation and billing of customers with or without meter. (CRU, 2019)
- Apply a fixed excess usage charge: 1.85 €/m³ (per service).
- Set the combined ceiling for charges at 500 €, ie 250 € per water service.
- Bill unmetered customers according to the number of people per accommodation.

The aim is to encourage households to conserve water and, where possible, to identify and repair leaks in their water supply. Indeed, an average of 47% of the water produced nationally disappears into the ground through leaks. (O’SULLIVAN, 2016)

Current CRU and IW analysis indicates that the richest 10% of households account for nearly 40% of demand for water services. The overage fee is intended to induce behavioral change within that 10%.

Under the legislation, water consumption above the annual household allowance (213m³) is considered excessive consumption, and customers will be liable for excess usage charges on the amount above this level. (IW, 2021)The CRU report to the Minister (CRU/17/339) pointed out that the average household demand is 125,000 l/year and that this figure includes excess users. It was then concluded between IW and the CRU that the annual household allowance would be set at 1.7 times the average annual household consumption of 125,000 litres.

The first excess water bills will be issued in 2022. IW then wrote to households using excessive water and gave them information on how to conserve water and deal with leaks. This gives users time to repair leaks and reduce their household's water usage before charges are incurred.(Redevance de conservation de l'eau des ménages, s.d.)

Volumetric overage charges	€/m ³ (1000 liters)
Water supply volumetric charge	1.85
Wastewater volumetric load	1.85
Volumetric Combined Service Fee	3.70

Table 1: Volumetric Overage Charges. Source: I.W.

Metered customers will not be charged more than the maximum annual overage charge. Where a water meter is installed by IW and the metered usage warrants it, volumetric excess water supply and/or sewage usage charges will be applied to the consumption to calculate the applicable charge.

Maximum annual overage charges	€ per year
Maximum water supply charge	1.85
Maximum wastewater load	1.85
Maximum combined load of supply and water and waste water	3.70

Table 2: Maximum annual overage charges (capped). Source: I.W.

4.2.2.1 The allocations

Each dwelling will receive an annual allowance and there will be no liability for charges for any water services used within the annual allowance limit. The default annual allocation (or threshold amount) is 213 m³ for all dwellings.

Dwellings with more than four occupants may apply for additional allowances. The process for applying for additional allowances will be prescribed by the Minister for Housing, Local Government and Heritage.

Number of people residing	Annual allowance (litres per year)	Amount of additional allowance (litres per year)
0	213,000	-
1	213,000	-
2	213,000	-
3	213 000	-
4	213 000	-
5	238 000	25 000
6	263 000	50 000
7	288 000	75 000
8	313 000	100 000
9	338 000	125 000
10	363 000	150 000
11	388 000	175 000
12	413 000	200 000

Table 3: annual allowance threshold for dwellings with zero to 12 occupants. Source: I.W.

4.2.3 Water charges for group plans

Collective water networks can be public or private, depending on whether the water comes from the public network or from a private source such as a lake, a river, a well or a spring.

All collective systems are equipped with a sector water meter so that the local authority can monitor the amount of water used. Each household participating in the scheme receives a household allowance which is set by the local authority. If they use more, the group system is billed as a whole, as the meter monitors water usage for the entire system. The meter is checked on a quarterly basis and allowances for domestic users are deducted. The rest is charged at a fixed rate per cubic meter. This rate varies from one municipality to another.

Members of the collective scheme are entitled to a subsidy from the local authority. Plan members are responsible for all additional costs, such as filtration and disinfection systems. (Information, *Redevances d'eau pour les régimes collectifs*, s.d.)

4.2.4 *Charges for private collective water systems*

Domestic users must pay for water if they are part of a private group system, where the water comes from a private source such as a well or lake. Local authorities provide a subsidy for each house in a private group scheme, just as they do for members of the public scheme. Commercial water users who are members of a private scheme can either have a meter attached to their premises to monitor their water usage or agree a fixed rate with other members of the group.

4.3 Pay the water charges

The collective hydraulic installations are responsible for their own control. Members of group plans who do not pay their share of maintenance costs must be dealt with by the group and its trustees. The local authority cannot intervene because it has no authority over the project. It is up to members and trustees of group plans to decide who pays what and why charges can be waived or reduced. If the user is in a private group plan, he must discuss any difficulty in payment with the trustees of the group.

4.4 Costs borne by water utilities

The Minister approved Ireland's Strategic Water Funding Plan, without amendment, on 7 November 2018 in accordance with the Water Services Act 2013 which was communicated to IW and provided to CRU. As the economic regulator of IW, the CRU:

- decides on IW's budgets and level of investment
- decides the level of water charges for domestic/non-domestic customers
- examines disputes between IW and its customers (CRU, s.d.)

The Plan will undergo an economic regulatory review by the CRU as part of its third regulatory review period 2020-2024.

IW's strategic funding plan defines IW's multi-year strategic funding requirement of €11 billion until 2024, consisting of €6.1 billion investment in infrastructure and assets and 4.9 billion _ in operating costs. This funding requirement will be met through a combination of non-domestic revenues, overuse charges, government grants, non-domestic borrowings and capital contributions.

The plan sets out IW's capital and operating costs over a multi-year period and how those costs are to be recovered and will ensure a shared understanding between government and IW of financial parameters and investment priorities.

The plan is in line with the new funding model for Irish water arising from the Oireachtas Joint Committee report on future funding for Irish water (April 2017) providing as much funding certainty as possible, with no charges on domestic water, and aligning with the cost recovery aspects of the EU Water Framework Directive. (UISCE, 2018)

4.4.1 Related institutions

4.4.1.1 Committee of Experts for the Public Domestic Water Service

Within the framework of the "confidence and supply agreement", it was agreed with the Fianna Fáil , that a Commission of Experts on Domestic Water Utilities was to be set up to assess and make recommendations on the funding of domestic water utilities in Ireland and the improvement of water quality water. (Frais d'eau, s.d.)

4.4.1.2 Oireachtas Joint Committee on Future Financing of Domestic Water Services

The "Confidence and Supply Agreement" provided that the recommendations of the Expert Commission would be considered by a special committee of the Oireachtas , the Joint Oireachtas Committee on the Future Funding of Domestic Water Services and , ultimately, the Oireachtas would then determine the sustainable funding model for water utilities in the future. Both houses of the Oireachtas endorsed the report.

4.4.1.3 Interdepartmental working group

Following the publication of the Oireachtas Joint Committee report and its approval, an interdepartmental working group was established, comprising representatives from the Department of Housing, Planning and Local Government, the Department of Finance and of the Ministry of Public Expenditure and Reform to determine how best to implement a new funding model for IW.

In particular, IW is required to plan major infrastructure projects that are a key part of IW's overall national mission to meet the bulk of domestic, commercial and industrial water service needs over the medium to long term (up to in 2050 and beyond). These large projects will have substantial financing needs, therefore, it will be necessary to consider financing arrangements for these large infrastructure projects within this structure (eg unit payments against the initial capital).

4.4.2 Operation costs

IW's operational costs are expected to total EUR 4.9 billion from 2019 to 2024. Due to increasing demand for water supply over the next six years and continued deployment of capital investments , costs will be subject to growth pressures, but these increases are expected to be offset by IW's energy efficiency programs. The structure is in fact committed to reducing energy consumption through a series of energy initiatives, including the replacement of assets and the launch of sustainable energy pilot projects at two wastewater treatment plants in order to install solar panels to generate renewable energy. IW is also looking into the possibility of producing more renewable energy from on-site wind turbines.

5. ACTIONS TO BE TAKEN

5.1 The renewal of hydraulic infrastructures

The renewal of hydraulic infrastructures is a serious subject for IW. With this in mind, the structure prepares five-year investment plans (covering all capital investments) and must additionally obtain approval for these from the government and their economic regulator, the Utilities Regulatory Commission (CRU).). Although capital maintenance (the replacement of end-of-life assets) has represented a relatively small proportion of IW's investment plans to date, its directors are aware of the need to significantly increase maintenance investments. fixed assets if they want to maintain the current level of service from the existing asset base. (Casey, 2022)

5.2 Avenues for a possible change in water pricing

On a full cost recovery basis and that the creation of IW aims to be ultimately self-financing. The company then develops tools such as the National Water Resources Plan (NWRP) to identify how to provide a safe, sustainable, secure and reliable water supply to users now and in the future while preserving the environment. .

The NWRP will define how IW should balance the supply and demand for drinking water in the short, medium and long term. It is a 25-year strategy to ensure a safe, sustainable, secure and reliable drinking water supply for all. Following the public consultation on the draft NWRP Phase 1 Master Plan and associated environmental reports, the submissions and comments received from the public consultation have been taken into consideration and the NWRP Master Plan has been updated. day. The NWRP Master Plan was adopted, along with a Strategic Environmental Assessment Statement and an Appropriate Assessment Determination. A consultation report summarizing the comments received during the public consultation has also been published.

As this is the first NWRP, the preparation of the plan has been divided into two distinct phases, the combination of which will become the final NWRP. As noted above, Phase 1 was completed in 2021 and the NWRP framework was adopted. Phase 2 should summarize the needs across the 535 individual water supplies and identify the solutions to meet those needs.

Each of the four draft RWRPs and associated environmental reports will have their own public consultation phases, which will be conducted over the course of 2021/2022.