

AON Submission to the Commission for Energy Regulation

Water Charges: Domestic Tariff Design Principles and Proposals

Irish Water Submission to CER – April 17th

Irish Water proposes the following six key principles to guide the design of domestic water charges:

- 1. *Equity and non-discrimination:*** Tariffs should be equitable, non-discriminatory and acceptable to customers.
- 2. *Efficiency in use of water services:*** Tariffs should incentivise the efficient use of water.
- 3. *Cost reflectivity:*** Tariffs should be reflective of the costs of providing different services.
- 4. *Cost recovery:*** Tariffs should provide for cost recovery to allow Irish Water fund essential water infrastructure development in Ireland.
- 5. *Stability:*** Tariffs should be designed to ensure significant annual tariff charges and bill volatility are kept to a minimum.
- 6. *Simplicity:*** Tariffs should be clear, transparent and easy to understand.

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Customer Engagement

A key challenge for Irish Water regarding the introduction of domestic charges will be customer acceptability. For this reason, Irish Water outlines that it intends to engage directly with its customer base. Specifically, Irish Water proposes to:

- Execute a multichannel campaign to communicate key messages to customers, address their concerns and increase acceptance of water charges.
- Contact every customer prior to the introduction of charges to provide information and to list payment options.
- Launch a campaign in autumn 2014 requesting customers to validate information relating to their property architecture type or occupancy as may be required for assessment, allowances or affordability measures.
- Request information necessary for the billing of customers.
- Bill customers on a quarterly basis with the first bills scheduled to be issued in January 2015.
- Bill the owner of a property unless otherwise notified.

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General tariff framework

Irish Water considers a number of elements to be common to both the metered and unmetered tariffs. In relation to common elements of both tariff frameworks, Irish Water proposes to:

- Introduce a national tariff for domestic customers;
- Implement a two-part tariff comprising of a fixed (standing) element and a single volumetric rate, with the standing charge, on average, accounting for 33% of the tariff;
- Reduce the volumetric rate paid by customers serviced by water unfit for human consumption, for example in cases of boil water notices;
- Split charges between water and wastewater in a cost reflective manner;
- Adopt the same tariff structure for wastewater as for water;
- Calculate the charge for wastewater based on metered/assessed water usage;
- Incorporate any decisions made by the Government on free allowances and social protection measures into the tariff methodology.

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Unmetered tariff framework options

What are the options for unmetered tariff charge?

At a high level, there are three options that the CER could consider with respect to the variable element of the unmetered charge:

- a flat charge, whereby all customers pay the same amount;
- an assessed charge based upon the value of a customer's property; and
- an assessed charge based on factors that are correlated with consumption.

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Unmetered tariff framework options

Flat charge

This could, for example, be based on the average of metered bills. This would mean that all unmetered customers would pay the same amount, regardless of their circumstances or the amount of water that they actually use.

From a design perspective this option benefits from being simple to calculate and implement. However, ***such a charge runs into issues in terms of fairness, and is also likely to perform poorly in terms of equity, in that all customers would pay the same amount, regardless of the amount of water they use.***

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Unmetered tariff framework options

Assessment based on property value

The majority of unmetered households in the UK pay for water based upon the rateable value of their property (effectively, a charge based on property value). However ***our literature review demonstrates that property value does not exhibit any correlation with water usage and therefore we are concerned that assessment based on property value would be an inequitable approach.***

Furthermore while some data is available on the value of domestic properties in Ireland, there may be data protection issues which would prevent us from utilising property value for the purpose of setting the variable element of assessed tariffs. Irish Water proposes not utilising property value for the purpose of setting the variable element of assessed tariffs.

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Unmetered tariff framework options

Assessment based on consumption

Set charges based on an assessment of a customer's consumption. Irish Water's research demonstrated that **70% of customers preferred methodology for water charge billing is based upon paying for what they use**. In this regard, setting unmetered charges based upon an assessment of a customer's consumption is in accordance with these wishes as assessed consumption is intended to act as a proxy for actual consumption.

This assessment could be based on one or more household characteristics that are correlated with water consumption (this is similar to the approach that has been adopted in the UK for those customers who request a meter, but for whom it is not possible to provide a meter).

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Unmetered tariff framework options

Assessment based on consumption

A single-factor assessed tariff would be simpler to implement than a multi-factor assessed tariff, and could therefore lead to lower administrative costs and present fewer data availability concerns. However, academic literature has shown that there are complex relationships between socio-economic, socio-demographic, and physical characteristics that drive household water demand. This suggests that using more than one household characteristic could lead to a stronger correlation between the assumed level of consumption and actual water usage.

Irish Water has evaluated these unmetered tariff structure options against the key principles and proposes an assessed charge based on consumption as it best meets our principles. Irish Water intends applying charges to unmetered customers based on an assessment of consumption using factors which correlate with water usage.

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Unmetered tariff framework options

Analysis of the factors that are used in the UK, in other jurisdictions, in academic papers and by Irish Think Tanks has identified **the following factors as being potentially correlated with water usage** and therefore potentially appropriate to use for the variable element of the proposed unmetered Irish Water tariff:

- floor area of the property;
- electricity usage;
- occupancy;
- number of bedrooms;
- number of bathrooms;
- architecture type

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Unmetered tariff framework options

How to evaluate assessment factors?

We have identified a number of practical criteria that one would need to consider in determining the appropriateness of the possible correlation factors above, which are:

Primary criterion:

1. Correlation with water usage

Secondary criteria:

2. Data availability
3. Costs of data collection, verification and maintenance
4. Definition and transparency

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Unmetered tariff framework options

Correlation with usage – the principal criterion

The evidence in the academic literature on the ranking of these factors, based on the strength of the correlation with water usage, is not conclusive. However, two key themes emerge:

- **occupancy** is the factor that is most strongly correlated with water usage. This is because some elements of water usage, such as water used for baths and showers, increase proportionately with the number of occupants in a house;
- the correlation between water usage and **architecture type** is also reasonably strong. On average, certain types of houses are likely to have more occupants and more rooms than others, and consequently are likely to use more water. Detached houses are also more likely to have a garden than a flat or apartment, and therefore are likely to use more water.

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Unmetered tariff framework options

Availability of data – secondary criterion

Occupancy.

- This information is collected through the Census, but census data is confidential. Consequently, in effect there is no nationally available data. Were this to be used to set tariffs, Irish Water would need to collect the information from customers directly through a data collection campaign.
- The Walker review (UK) considered different assessment options for tariffs. With respect to the voluntary disclosure of occupancy data, the review noted that:

“In the absence of official data on occupancy, relying on voluntary disclosure is, in the view of the review team, impractical (at least on a large scale) because it would be **open to deception and subject to constant changes, and enforcement would be extremely difficult**. In addition, occupancy is not the only indicator of usage. The presence or absence of a garden, the water efficiency of fittings and appliances and the behaviour of customers can all have a significant impact on water usage. Unless these other factors are also taken into account, water bills would not match usage for a significant number of customers.”

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Unmetered tariff framework options

Availability of data – secondary criterion

Architecture Type.

- Geo Directory is a service, jointly established by An Post and Ordnance Survey Ireland that provides a complete database of all the buildings in the Republic of Ireland and their geolocation details. It holds records for 1.8 million premises. This database categorises all domestic properties by architecture type (e.g. flat, detached etc.). The Office of Revenue Commissioners has linked the database of Irish names and addresses with the Geo Directory. Therefore it is possible to identify the owner of each property and the type of property that they live in.
- Additionally, the Central Statistics Office (CSO) reports the proportion of properties in each Enumeration District that fit into each property type, which can be used to validate the data found in the Geo Directory.

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Unmetered tariff framework options

Maintainability of data – secondary criterion

The third criterion is the maintainability of the correlation factors over time. Ideally, the factor either would remain relatively constant over time, or the updating of the factor would be relatively straightforward. If the factor changes frequently and the updating process is relatively costly, this is likely to add significantly to the costs associated with the tariff.

- **Occupancy** - Occupancy data would need to be updated on the basis of disclosure from customers. Occupancy data, as noted by the Walker review, is potentially subject to constant changes, and hence use of this correlation factor could be associated with potentially significant administrative costs
- **Architecture type** - Unlikely to change regularly, and easily maintainable, as the Geo Directory database is updated on a quarterly basis.

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Option 1 (9 Consumption Points)

Figure 5.9 Option 1 (9 consumption points)

		Architecture Type		
		Small	Medium	Large
Occupancy	Small 0 - 1	Consumption 1	Consumption 2	Consumption 3
	Medium 2 - 5	Consumption 4	Consumption 5	Consumption 6
	Large 6+	Consumption 7	Consumption 8	Consumption 9

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Option 2 (7 Consumption Points)

		Architecture Type		
		Small	Medium	Large
Occupancy	Small 0 - 1	Consumption 1		
	Medium 2 - 5	Consumption 2	Consumption 3	Consumption 4
	Large 6+	Consumption 5	Consumption 6	Consumption 7

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Option 3 (4 Consumption Points)

		Architecture Type		
		Small	Medium	Large
Occupancy	Small 0 - 1	Consumption 1		
	Not Small > 1	Consumption 2	Consumption 3	Consumption 4

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Option 4 (5 Consumption Points)

		Architecture Type		
		Small	Medium	Large
Occupancy	Unoccupied 0	Consumption 1		
	Single Resident 1	Consumption 2		
	Not Small > 1	Consumption 3	Consumption 4	Consumption 5

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Unmetered tariff framework - Synopsis

At the time of the introduction domestic water charges in October 2014 not all households will have had a meter installed. It is furthermore likely that a sub-set of customers will remain unmetered permanently if a meter cannot be installed at their property. For the calculation of the unmetered tariffs applicable to these households, Irish Water proposes to:

- Base the unmetered volumetric charge element on an assessment of consumption
- Apply a combination of the **property architecture type** and **occupancy level** to assess the household consumption
- Launch a customer validation campaign to validate occupancy status, property architectural type, water service use and service type to inform the assessed charge
- Review the methodology to calculate assessed charges upon completion of the metering installation programme in 2016
- Implement an assessed tariff model with four consumption points (option 3) with a separate consumption band for single and unoccupied households

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Transition from Assessed to Metered Tariff

In order to ensure a smooth transition from assessed to metered charges, Irish Water furthermore proposes to allow customers to cap initial metered bills at the assessed charging level for a period of 6-12 months from the installation of the meter

Billing

Irish Water will bill the owner of a property unless otherwise notified. In this regard, an occupier can inform Irish Water that he/she is the person to which the water charge should be billed. In such instances, Irish Water will bill the occupier rather than the owner of a property. Such clarification can be provided to Irish Water during the validation campaign later this year

Questions for CER Submission

General Tariff Framework

Q1: Do you consider the principles for domestic tariff design proposed by Irish Water, and any proposed trade-off of these principles, form a suitable basis for the design of domestic tariffs? If not, please explain why citing any additional or alternative approaches that should be considered.

Q2: Do you agree with Irish Water's assessment that a national tariff regime should be introduced? If not, please explain why citing any alternative approaches to this issue which you consider to be more appropriate.

Q3: Do you agree with Irish Water's proposal to reduce the volumetric rate for households whose water supply is not fit for human consumption? If not, please explain why citing any alternative approaches to this issue which you consider to be more appropriate.

Q4: Can you think of other circumstances where a tariff reduction should be considered? Please explain your answer.

Questions for CER Submission

Q5: Do you agree with Irish Water's assessment that a standing charge averaging 33% should be introduced for unmetered and metered customers? If not, please explain why citing any alternative approaches to this issue which you consider to be more appropriate.

Q6: Do you agree with Irish Water's proposal that wastewater should adopt the same tariff structure as water and that charges should be split between water and wastewater in a cost-reflective manner? If not, please explain why citing any alternative approaches that you consider to be more appropriate.

Q7: Do you agree with Irish Water's proposal that mixed use customers will not be charged for domestic water usage until the completion of the non-domestic data migration project? Please explain your answer citing any alternative approaches to this issue which you consider more appropriate.

Q8: Do you agree with Irish Water's proposal to bill its customers quarterly. If not, please explain why citing your preferred billing frequency.

Questions for CER Submission

Unmetered Tariff Framework

Q9: What are your views on the proposed charge for unmetered households?

Q10: Do you agree with Irish Water's proposed multi-factor approach to inform an assessed charge? If not, please explain why citing any alternative approach you consider to be more appropriate. If yes, which of the proposed four models (if any) do you consider most appropriate for unmetered households? Please explain your answer.

Q11: Do you agree with Irish Water's proposal to introduce optional bill caps for households moving from an unmetered to a metered charge? If yes, do you agree with the proposed timeframe of 6-12 months? If not, please explain why citing any alternative approaches to this issues which you consider to be more appropriate.

Questions for CER Submission

Metered Tariff Framework

Q12: What are your views on the proposed charge for metered households?

Q13: Do you agree with Irish Water's proposal to introduce a two-part tariff structure consisting of a fixed (standing) element and a volumetric component? Please detail.

Further Suggestions

Q14: Do you have any other suggestions for improving upon Irish Water's proposals? Please explain how your proposals improve those put forward by Irish Water.

Q15: Are there any other transitional arrangements that you believe should be considered to ease the introduction of charges/the transition from one tariff regime to another for both unmetered and metered households? Please explain your answer.

Government Announcement May 6th

Main points of Government decision:

- Government subvention of Irish Water conditional on the average annual water charges bill being of the order of €240.
- Free allowance of 30,000 litres of water (and waste water equivalent) per household per year. To put this in context: the average household in the state (2.7 people) is estimated to use 140,000 litres of water per year.
- Households to receive an additional free allowance for every child under 18 (in line with entitlement to child benefit) to cover a child's normal consumption of water supplied and waste water treated. Based on available information, consumption is estimated at up to 38,000 litres per child per annum but information will be verified through consumption data from metering.
- Free allowances to apply to primary residences only.

Government Announcement May 6th

Main points of Government decision:

- The Minister to issue a policy direction to CER, to ensure that:
 - That the assessed charge corresponds as closely as possible to metered charges by basing such charges primarily on occupancy
 - Provision is made for retrospective adjustment of charges including a rebate (above a reasonable threshold) in the context of transitional arrangements for people moving from assessed to metered home;
 - There is no standing charge for domestic consumers (but a minimum charge may apply to properties which are not permanently occupied);
 - Water charges are capped for people with high water usage due to medical conditions;
 - The domestic water charging regime to be fixed to the end of 2016, but with a provision to review assessed charges in the light of metered usage to ensure the assessed charge remains a close proxy for actual usage.

Government Announcement May 6th

Main points of Government decision:

- A free first fix scheme to be introduced by Irish Water, at a cost of €51 million to the end of 2016. The scheme will be available to Irish Water customers in the 6 months following installation of a water meter or for six months after domestic water charges commence (whichever is the later).
- The Department is also exploring with Irish Water the potential to include a new phase of metering of some 48,000 apartments, which can be easily metered as part of a separate procurement.
- An additional €200 million in capital funding for Irish Water over two years (i.e. €100 million per annum), to advance roll-out of its 2014-2016 Capital Investment Plan (Irish Water's Capital Investment Plan and its Water Conservation Plan will be published in the near future).

French Water Billing System

- Two alternate suppliers available – Veolia, Générale des Eaux
- Includes Standing Charge
- Houses have individual meters
- Apartments vary – either
 - a shared meter for the block or
 - both a shared block meter and an individual meter per apartment
 - If shared only – consumption charge is divided on the basis of surface area of each unit
- If there is a leak, this needs to be reported directly to water provider. It will be examined/repaired by the water provider and will be discounted on the next bill.

French Water Billing System

Example of French Bill received – many varying charges:

- Meter Rental Charge
- Water Subscription (standing charge?)
- Water Consumption
- Sanitary Sewers Subscription
- Sanitary Sewers Consumption
- Pollution Licence Fee
- Licence fee for Network Modernisation
- Licence fee for Regional Water Ownership

Synopsis

- No mention of OMCs in any literature or announcements to date
- Intention is to bill the owner of each residential unit – landlords can arrange with tenant to have tenant invoiced instead
- Apartments not included in Phase 1 of meter roll-out. Phase 1 to conclude mid-2016.
- Potential to include a new phase of metering of some 48,000 apartments
- No standing charge
- Irish Water propose that assessed charge on the basis of occupancy and architecture type to be used to charge unmetered units (including apartments). Four options to consider.

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- Support Irish Water proposal to base assessed charge on occupancy and architecture type.
- Support proposal to reduce rate for households where supply is unfit for human consumption. Also, propose that a reduced rate is applied to compensate households for a severe disruption in supply i.e. >12 hours?
- Support optional bill caps for households moving from unmetered to metered for period of 6 months (2 billing periods).
- Support government plans for free first fix (is this relevant to tariff?)
- Suggest Irish Water make a resubmission given changes enforced by government announcement on May 6th?