6th December 2023

Policy Proposal

# Trade Effluent Tariff Design Review proposals

## Submission to the Commission for Regulation of Utilities

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# 1.Executive summary

**Background:**

Uisce Éireann (UÉ) assumed responsibility for water supply and wastewater services on 1st January 2014. Current water supply and wastewater tariff arrangements are set out in the Water Charges Plan (WCP)[1].

Since 1st October 2021, non-domestic customers are charged in line with the Non-Domestic Tariff Framework (NDTF) as approved by the CRU on 3rd July 2019[2]. The NDTF introduced harmonised charging arrangements for the supply of water to a non-domestic premises and for removing wastewater from such premises. The NDTF was extended to also provide the basis for charging public Group Water Schemes from 1st October 2022. The NDTF extends to water supply and wastewater charges only; it does not include charges for trade effluent. In accordance with section 3.1.1 of the WCP, UÉ will maintain trade effluent tariffs in accordance with the structures and arrangements in place in each Local Authority (LA) area prior to 1st January 2014 until a new UÉ Trade Effluent Charging Framework is approved by the CRU.

Trade effluent is typically a wastewater arising from a trade, service, research or business activity that is discharged to the sewer. Trade effluent has a different composition to "sanitary wastewater"[3] and may contain additional or higher levels of pollutants that prove more difficult and costly to treat. The development of current trade effluent charging arrangements was guided by the Government's Water Services Pricing Policy (WSPP)[4] which recommended that large trade effluent customers should be subject to a trade effluent charge that reflects both the volume and strength[5] of the effluent. While such trade effluent charging arrangements currently exist in 18 LA areas, there are 13 LA areas where all trade effluent customers are subject to a volumetric wastewater charge only, with no account taken of trade effluent strength (i.e., the level of pollutants in the wastewater). Furthermore, across the 18 LA areas where a specific trade effluent charge exists, there are inconsistencies in the application of these charges. Some trade effluent customers are charged by Mogden formula[6], individual agreement, or by a specific volumetric rate, while others are charged the standard wastewater volumetric rate for that LA (and have therefore moved to the NDTF rates since 1st October 2021).

[1] Updated Water Charges Plan 1st October 2022.
[2] CRU Decision on UÉ's Non-Domestic Tariff Framework 3rd July 2019
[3] Means wastewater of a composition and concentration (biological and chemical) which originates predominantly from the human metabolism or from day-to-day domestic type human activities, including washing and sanitation. Sanitary wastewater is generated by both domestic and non-domestic customer classes.
[4] Water Services Pricing Policy – consolidation of Water Services Pricing Policy circulars 26th September 2002.
[5] Strength means the pollution load or concentration of pollutants in wastewater.
[6] The Mogden formula calculates the charges to collect, treat and dispose of trade effluent. Various components of treatment, for example Volume, Chemical Oxygen Demand (COD) and Suspended Solids (SS) are separate inputs to the formula. The Mogden formula is described in further detail under Section 4.3 and 8.2.3.2.

Recognising the inequity and complexity of the current arrangements, the Commission for Regulation of Utilities (CRU) requested UÉ to provide a submission setting out trade effluent tariff design options and a proposal for an enduring Trade Effluent Charging Framework. The CRU also directed that UÉ's proposals should facilitate alignment with the NDTF.

The CRU provided UÉ with a suite of tariff principles to guide the design of the new trade effluent tariffs. Establishing the Trade Effluent Charging Framework and aligning it with the NDTF involves two separate consultations as described below.

**Consultation 1: Tariff Design and Structure**

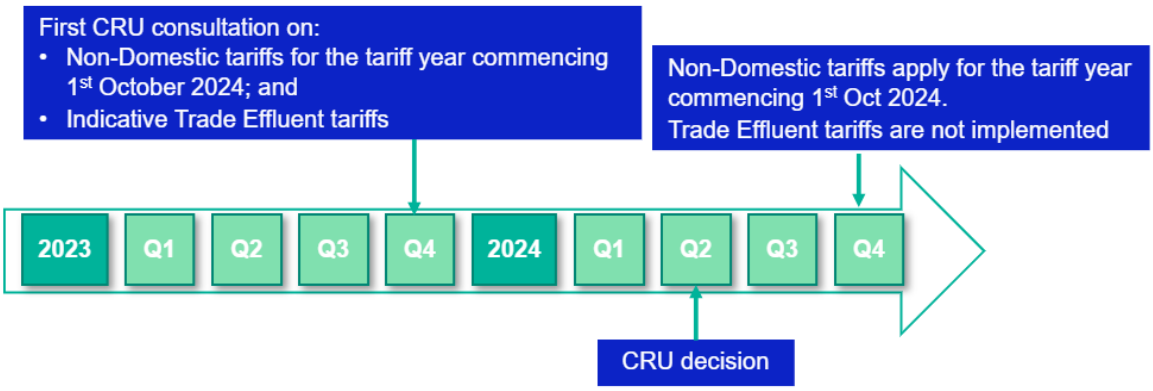
The purpose of the first consultation is to establish the trade effluent tariff design and structure and review the non-domestic tariff design and structure. UÉ's proposals will be subject to a public consultation and the CRU will consider all responses before making its decision on these matters.

This technical paper sets out the key trade effluent tariff design issues, an assessment of the options in each case, the supporting evidence (including national and international precedent where relevant), and the proposals submitted by UÉ. It considers the geographical basis for charging customers; customer classification; cost allocation between trade effluent customer classes; and tariff structure.

A separate paper has been submitted for consultation by UÉ to the CRU which reviews the operation of the NDTF, in particular tariff design elements which will facilitate alignment with the Trade Effluent Charging Framework. This will ensure that tariffs for non-domestic and trade effluent customers are calculated in a consistent manner. That paper reviews cost allocation to all customer groups, including the trade effluent customer group. That paper also proposes non-domestic water supply and wastewater tariff levels for the 2024/2025 tariff year. Trade effluent customers should engage with that separate paper regarding any views on 2024/2025 water supply and wastewater tariff levels.

Figure 1.1. illustrates the key timelines related to the first CRU consultation which will consider updating non-domestic tariff levels for the 2024/2025 tariff year and setting the trade effluent tariff design demonstrated by indicative trade effluent tariffs. While the approach to allocating trade effluent costs is being considered as part of this consultation, UÉ does not propose implementing the new Trade Effluent Charging Framework until 1st October 2026. This is to provide customers with sufficient time to plan for the change and to enable UÉ to make the necessary system and operational changes to implement the Trade Effluent Charging Framework.

**Figure 1.1 First CRU consultation**



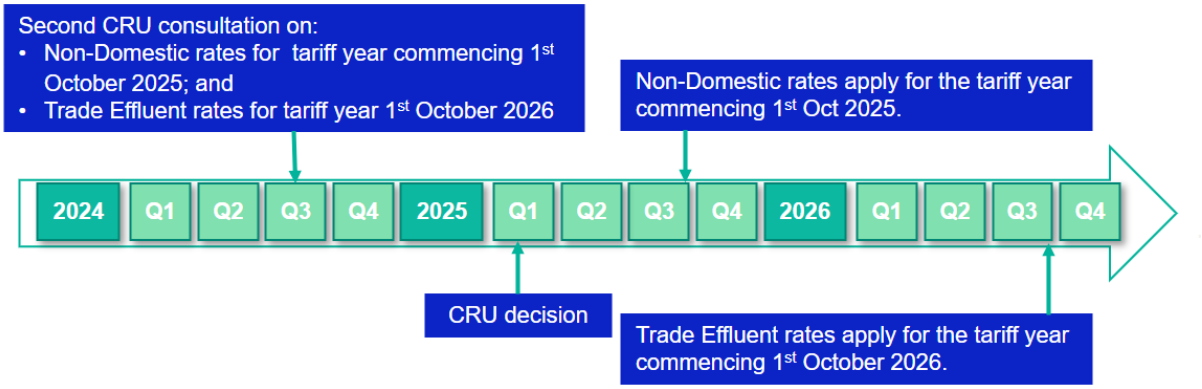

**Consultation 2: Setting the tariff rates**

The purpose of the second consultation in 2024 will be to set all (non-domestic and trade effluent) tariffs using the costs set out in the CRU's decision on the allowed revenue for the calendar year 2025. The trade effluent and non-domestic tariff structure and design will have been set by the CRU decision following the first consultation. The scope of the second consultation will be limited to the impact of the CRU's tariff design decisions, the CRU's decision on the allowed revenue for the calendar year 2025and updated (2022) cost drivers. UÉ will propose Tariff Application Rules setting out the operational rules to support the CRU's tariff design decisions. UÉ recognises that increases to customer bills is a key concern for trade effluent customers. It is important to help customers mitigate the impact of bill increases on their businesses. The second consultation will therefore also consider if transitional arrangements are necessary, how these arrangements would work for trade effluent customers, and how they would align with transitional arrangements agreed as part of the NDTF.

UÉ's proposals will be subject to a public consultation and the CRU will consider all responses before making its decision on these matters.

Figure 1.2 illustrates the key timelines related to the second CRU consultation which will consider updating non-domestic tariff levels for the 2025/2026 tariff year. UÉ also proposes that the enduring trade effluent tariffs will come into effect from 1st October 2026.

**Figure 1.2 Second CRU consultation**




UÉ's proposed implementation go-live date for the Trade Effluent Charging Framework is 1st October 2026; approximately 18 months from the expected CRU decision in Q1 2025. This will allow trade effluent customers a 'grace period' to mitigate changes in their bills, through investment in onsite treatment or other measures.

UÉ's position is that an earlier implementation date is not feasible due to various dependencies and risks (including data requirements, the design of UÉ's IT systems, process design and customer engagement). UÉ believes that an 18 month 'grace period' will facilitate effective implementation which will be critically important to the successful adoption of the new Trade Effluent Charging Framework.

**Summary of UÉ's key Consultation 1 Tariff Design and Structure proposals:**

**1. A national or regionally varying regime**

UÉ proposes a trade effluent tariff regime set on a national basis. This approach performs best against the CRU tariff principles and is supported by regulatory precedent in Ireland and internationally. A single national tariff regime presents an opportunity to standardise and harmonise the highly fragmented trade effluent customer charging arrangements currently in place.

**2. The basis for classifying customers for trade effluent charges**

Having assessed the options against the CRU principles, UÉ proposes a combination of activity based categorisation and annual water consumption or wastewater discharge if it is a waste only connection as the classification basis. Specifically, it is proposed that a trade effluent customer's class will be determined based on their business activity and prior year's annual water consumption. Customer classification using such a combination promotes efficient use

of wastewater services, as it enables both the volume and strength of wastewater discharged to be considered.

## 3. Trade effluent customer classes

Table 1.1 below sets out UÉ's proposed three customer classes for trade effluent charges. The number of customer classes is driven by the level of tariff differentiation justified between different groups of customers. UÉ also considered the option of two customer classes but this did not perform as strongly when evaluated against the CRU principles. The three customer classes proposed by UÉ allows for the best differentiation to set cost reflective charges. Table 1.1 sets out the proposed classes in summary form.

**Table 1.1 Classifying customers for trade effluent charges**

| Trade Effluent customer classes | |
|---|---|
| **Trade Effluent Tariff Category** | **Combination of business activity & annual consumption ($m^3$)** |
| Trade Effluent Category 1 | • Commercial Activities; and<br>• Industrial Activities[7] with annual consumption <1,000$m^3$ |
| Trade Effluent Category 2 | • Industrial Activities with annual consumption between 1,000$m^3$ and 249,999$m^3$ |
| Trade Effluent Category 3 | • Industrial Activities with annual consumption equal to or greater than 250,000$m^3$ |

## 4. Cost allocation to the trade effluent service product and customer classes

UÉ's cost allocation analysis is explained in detail in section 6 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper. As part of that analysis, UÉ proposes allocating costs to service products (Water and Wastewater) and customer classes (including trade effluent customers to facilitate the alignment with the Trade Effluent Charging Framework), on a Fully Allocated Cost (FAC) basis in accordance with how they are functionalised in the prevailing CRU Revenue Control determination.

[7] A list of UÉ deemed Commercial or Industrial Activities is available in Appendix 3.

Cost items that are directly attributable to a product or customer class will be allocated on that basis. Indirect costs, or joint and common costs, will be allocated to products and customer classes using appropriate cost drivers. It remains appropriate to retain volume (as a measure of relative use) and 'number of connections' as core cost drivers in UÉ's cost allocation approach for wastewater. In addition to the volume and connection cost drivers, UÉ proposes adding Population Equivalent (PE) as an additional cost driver relating to wastewater strength. PE is a measure of the pollutant load or strength of wastewater and allows for a standard comparison of the effluent strengths discharged by domestic, non-domestic and trade effluent customer groups. It enables UÉ to propose a tariff structure which aligns with the Polluter Pays Principle (PPP[8]); customers discharging higher strength wastewater should pay higher treatment charges. Consideration of PE is important in appropriately allocating costs to trade effluent customers.

A Fully Allocated Cost (FAC) approach provides benefits with respect to cost recovery, stability and simplicity and is a cost allocation approach widely used by water utilities elsewhere. Application of UÉ's proposed FAC methodology gives the results set out in Table 1.2 below. This table compares UÉ's proposed non-domestic cost allocation to the CRU's 2019 Framework decision on non-domestic contribution to allowed revenue recovery. UÉ's proposed 23.73% overall non-domestic cost allocation includes a 4.92% contribution from trade effluent customers[9].

**Table 1.2 Non-domestic cost allocation – current and proposed**

| Category | Service | | | | Overall |
|---|---|---|---|---|---|
| | Water Supply | Waste-water | TE | Other | Total |
| ***Proposed Cost Allocation Analysis*** | ***12.00%*** | ***5.96%*** | ***4.92%*** | ***0.84%*** | ***23.73%*** |
| Current cost Allocation CRU 2019 Framework decision | 11.25% | 8.76% | 1.54% | 1.43% | 22.98% |

[8] The PPP is a principle of EU Environmental Law and it requires that polluters should bear the costs of their pollution including the cost of measures taken to prevent, control and remedy pollution and the costs it imposes on society. See here for EurEau's view on how the PPP should apply to water services including wastewater treatment costs.
[9] Trade Effluent customers are a specific type of non-domestic wastewater customer and are therefore included within the overall non-domestic cost allocation figure.

Other includes annual revenues from individual charging arrangements that have been upheld by UÉ and additional services provided to non-domestic customers. As part of its 2019 Framework decision, the CRU asked UÉ to set up and implement a process for dealing with customers who claim to have an existing agreement or contract for the provision of water supply and wastewater services. Legacy charging arrangements may include historical agreements or contracts entered into by a customer with a LA, which may include legally binding bespoke provisions relating to the provision of water services.

Table 1.3 estimates the contribution that each trade effluent customer class should make towards recovery of the 4.92% of UÉ's allowed revenue allocated to trade effluent customers.

The increase in allocation from 1.54% to 4.92% for the trade effluent service includes a movement of 1.5% relating to the re-classification of some non-domestic customers from the wastewater service to the trade effluent service. Specifically, approximately 6,600 trade effluent customers (accounting for c.1.5% of current revenues) are currently assigned to wastewater Tariff Bands and contribute to wastewater revenue recovery. These customers will be reassigned to Trade Effluent Categories and recovery of their cost allocation will be recognised as trade effluent revenue under UÉ's proposals. The overall impact is a reduction in the allocation of costs to the wastewater service and an increase in the trade effluent service allocation.

**Table 1.3 Trade effluent cost allocation to trade effluent customer classes**

| Trade Effluent cost allocation | Trade Effluent Category | | | | Total trade effluent allocation |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | Un-metered | |
| % Overall allocation to trade effluent | 1.21% | 1.68% | 2.02% | 0.01% | **4.92%** |

## 5. The structure of metered trade effluent tariffs

UÉ proposes charging for trade effluent services on a per connection basis. This is supported by an evaluation of options against the CRU tariff principles. A Multi Part tariff, comprising fixed and variable elements relating to the volume and strength of wastewater discharged by each trade effluent customer class, is also proposed. The cost allocation analysis is used as the basis for determining the balance between fixed and variable components for each customer class.

Table 1.4 below sets out the proportional split between fixed and variable charges for Trade Effluent.

**Table 1.4 Proportional split between fixed and variable charges – Trade Effluent**

| Trade Effluent - % revenues recovered from metered charges | | | |
|---|---|---|---|
| Customer Class | Standing Charge | Compliance & Licensing Charge | Variable Charge |
| **Trade effluent Overall** | 3.2% | 4.9% | 91.9% |
| Category 1 tariff customers | 5.5% | 11.7% | 82.8% |
| Category 2 tariff customers | 3.0% | 5.3% | 91.7% |
| Category 3 tariff customers | 2.0% | 0.4% | 97.6% |

Allowed revenue relating to customer operations costs, and operational spend on support services, will be recovered through the standing charge. These elements all represent fixed costs associated with the delivery of services to **all** non-domestic customers. UÉ proposes allocating a percentage of wastewater collection capital expenditure for recovery from the standing charge, in order to reduce the perverse incentive inherent in the current NDTF tariff design from 1st October 2024. A small percentage of allowed revenue relating to operating and maintaining expenditure will also be recovered through the standing charge. For more details on the costs recovered through the standing charge, see section 7.2.1 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

Allowed revenue relating to trade effluent compliance and licensing costs will be recovered through a separate fixed component of a trade effluent customer's bill. These elements represent fixed costs associated with the delivery of services to trade effluent customers **only**.

The remainder of UÉ's allowed revenue attributed to trade effluent customers will be allocated for recovery through the variable charge. Below is a description of the variable charging structure for each of UÉ's proposed tariff categories.

## 6. Trade Effluent Category 1 charging structure

For Trade Effluent Category 1 customers, UÉ proposes a uniform volumetric rate structure differentiated by customer class consistent with the approach taken for sanitary wastewater discharged by non-domestic customers. For more details on the costs recovered through the volumetric charge for Trade Effluent Category 1 customers and sanitary wastewater discharged by non-domestic customers, see section 7.2.2 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

## 7. Trade Effluent Category 2 and 3 charging structure

For Trade Effluent Category 2 and 3 customers, UÉ proposes a single Mogden formula[10] incorporating variable operating charges with a uniform rate for each component per Trade Effluent Category. This approach has distinct advantages compared to other options such as a uniform volumetric rate per Trade Effluent Category. The inclusion of a strength-based component to trade effluent charges for large volume[11] customers carrying out Industrial Activities provides a clear signal to customers to assess their trade effluent impact and reduce it where possible. This best incentivises efficiency in the use of wastewater services. It also performs strongly on cost reflectivity and tariff stability principles as the single Mogden formula is the most common arrangement where a strength component to the trade effluent charge currently exists.

The Mogden formula requires representative sampling (effluent sampling capturing the typical trade effluent discharged from the premises) and analysis of the trade effluent to derive the inputs to calculate the charge. UÉ's proposed Mogden formula is structured as follows:

$$\text{Unit Charge} = R + V + \left(\frac{Ot}{Os} \times B\right) + \left(\frac{St}{Ss} \times S\right)$$

Where:

[10] A Mogden formula calculates the charges to collect, treat and dispose of trade effluent. Various components of treatment, for example Volume, Chemical Oxygen Demand (COD) or Biochemical Oxygen Demand (BOD), and Suspended Solids (SS) are separate inputs to the formula.

[11] Large volume trade effluent customers are defined, for the purposes of trade effluent charges, as those customers carrying out Industrial Activities with annual consumption equal to or greater than 1,000m$^3$.

**Table 1.5 Proposed Mogden formula components**

| Component | Description | Unit |
|---|---|---|
| R | A fixed charge per cubic metre for reception and conveyance costs | $m^3$ |
| V | A fixed charge per cubic metre for volumetric and primary or preliminary treatment costs, | $m^3$ |
| Ot | The Chemical Oxygen Demand (COD) of the customer's settled trade effluent | mg/l |
| Os | The average national figure for COD of settled wastewater as determined by UÉ across all its wastewater treatment plants | mg/l |
| B | The biological oxidation cost per cubic metre of settled wastewater of average strength | $m^3$ |
| St | The total suspended solids content of the customer's trade effluent | mg/l |
| Ss | The average national figure for SS of wastewater as determined by UÉ across all its wastewater treatment plants | mg/l |
| S | The charge per cubic metre for treatment and disposal of primary sludge from a wastewater treatment plant | $m^3$ |

## 8. The structure of unmetered trade effluent tariffs

UÉ proposes applying a flat charge to all unmetered trade effluent customers on the basis that this performs best against the CRU principles, and rates particularly highly on simplicity and stability. A flat charge is also the approach applied as part of the NDTF. It is a proportionate and cost effective option given the relatively small proportion of trade effluent customers currently unmetered and the low volumes of wastewater discharge which are likely[12]. UÉ proposes setting unmetered trade effluent charges at the level equivalent to a small non-domestic user, as this will provide equity with metered Trade Effluent Category 1

[12] Approximately 96% of the non-domestic customer base have their water consumption measured by a meter, with the remaining 4% unmetered customers. The vast majority of unmetered customers (99.9%) pay non-domestic tariffs set at a level commensurate with the tariff applied to customers in the Band 1 metered customer class (</= 1,000$m^3$).

customers. In certain circumstances (e.g., where UÉ has established that a customer uses water from sources other than a public supply such as private wells or boreholes etc.), UÉ may consider metering options to establish an accurate volume of trade effluent.

## 9. Approach to charging mixed use customers

Mixed use customers avail of water and wastewater services for both domestic and non-domestic purposes. For example, water supply and/or wastewater serving both a restaurant and an upstairs flat occupied as a private dwelling. From an equity perspective, it is important that the charging arrangements that apply to domestic customers are similarly applied to the domestic portion of UÉ's mixed use trade effluent customers' usage (as far as practicable). The Domestic Allowance (DA) represents the portion (volume in $m^3$ per annum) of water and wastewater allowed for domestic purposes in mixed use premises. For mixed use trade effluent customers, wastewater consumed above this allowance will be charged the applicable trade effluent unit rate (€/$m^3$).

UÉ proposes to apply a DA to the variable component of mixed use customers' charges for water services. The DA will be applied in accordance with the levels set by Ministerial Order[13]. The DA will be 213$m^3$ (for each of water and wastewater) for mixed use premises with 1 to 4 occupants. Mixed use premises with occupancy greater than 4 will get an extra 25$m^3$ per annum (for each of water and wastewater) per additional occupant.

## 10. Trade effluent charging arrangements until 1st October 2026

Following the second consultation in 2024, UÉ proposes implementing the CRU's decision on the Trade Effluent Charging Framework from 1st October 2026. In the interim period until 1st October 2026, UÉ proposes maintaining trade effluent tariffs in accordance with the structures and arrangements currently in place. Specifically, UÉ proposes that trade effluent customers in 18 LA areas, which have strength components included in the trade effluent charge, will continue to be charged via an individual arrangement, specific volumetric rate, fixed trade effluent charge or an 'LA area Mogden formula' until 1st October 2026. Trade effluent customers in the remaining 13 LA areas will continue to be charged on the basis of the applicable NDTF tariffs until 1st October 2026. See section 4 for further detail on current trade effluent charging arrangements.

## 11. Transitional Arrangements

Given the wide range of existing tariffs, structures and application rules for trade effluent charges, moving to UÉ's proposed tariff design will result in tariff changes for customers. It

[13] The Water Services Act 2007 (Threshold Amount and Allowance Amount) Order 2017 SI No 597 of 2017 specifies $m^3$ amounts below which Irish Water shall provide water services without charge to a domestic customer.

will be important to consider if any transitional arrangements should be put in place to ensure that customer bill changes are implemented smoothly and in an equitable manner.

The trade effluent tariff rates (and resulting estimated customer bill impact analysis) published in Appendix 1 in this submission document, **are indicative only and will not be applied to customers**.

The indicative rates are based on 2024 allowed revenues and the most recently available cost drivers from 2021. These rates will change following the outcome of this consultation and changes to the input data to reflect updated values for UÉ's allowed revenue for the calendar year 2025and 2022 cost drivers (connection numbers, volumes and PE). UÉ, therefore, considers it more appropriate to wait until the second consultation in 2024 to consider, and propose, how transitional arrangements would work for trade effluent customers and how they would align with transitional arrangements agreed as part of the NDTF.

To assist customers, section 9 introduces the following key transition aspects which will be considered in greater detail in 2024:

- Commencement of the tariff transition;
- The appropriate transition approach;
- Time period for transition;
- Need for a cap on the maximum annual increase;
- Calculation of transition tariffs; and
- Review of enduring tariff levels.

Section 10 of the paper introduces a number of scenarios to help customers understand their indicative, enduring annual bill following the introduction of the Trade Effluent Charging Framework. It also outlines how UÉ will communicate with customers.

**12. International comparative analysis**

To support the development of UÉ's Trade Effluent Tariff Design Proposal, UÉ has undertaken a comprehensive international comparative analysis. This analysis assesses how UÉ's proposed tariffs compare to a range of utilities internationally. It is important to note that UÉ's **indicative charges** are for 2024 and the comparator charges analysed are the current utility charges. It is reasonable to expect that international charges may increase by 2024. The output of the analysis can be found in Appendix 2.

**Conclusion**

As a national utility, UÉ recognises that the current trade effluent charging arrangements are inequitable. As the current charges do not consistently account for both the volume and the

strength of wastewater discharged, they do not encourage efficiency in the use of wastewater services by **all** large volume trade effluent customers carrying out Industrial Activities. UÉ's proposals for the Trade Effluent Charging Framework are consistent with the requirements of the EU Urban Wastewater Treatment Directive and the Polluter Pays Principle[14]. For example, the proposals are supported by detailed economic analysis[15] which demonstrates that they take account of the principle of cost recovery for water services as required by Annex III of the Directive.

UÉ's tariff design proposal will harmonise tariffs nationwide and will result in charges which appropriately reflect the costs of providing wastewater services to the trade effluent sector. All options for tariff design have been fully evaluated and, in each case, the proposal put forward is the strongest option when rated against the CRU tariff principles. National and international precedent has also been taken into account in the design process. UÉ has carried out an international price comparison analysis which is summarised in Appendix 2 of this paper. The analysis demonstrates that UÉ's indicative trade effluent charges are broadly aligned with international benchmarks.

UÉ is cognisant that the proposed design will result in tariff changes for customers and will consider whether or not appropriate transition arrangements should be put in place. A second consultation in 2024 will consider how any proposed arrangements would work for trade effluent customers and how they would align with transitional arrangements agreed as part of the NDTF.

Such transitional arrangements would allow trade effluent customers time to work with UÉ to mitigate changes in their bills, through investment in onsite treatment or other measures. UÉ will work to ensure that the CRU's determination on the enduring Trade Effluent Charging Framework is implemented effectively with clear communication to customers during each step of the process.

[14] See Article 9 of the EU Water Framework Directive for more information.

[15] "Economic analysis shall contain enough information in sufficient detail in order to make the relevant calculations necessary for taking into account under Article 9 the principle of recovery of the costs of water services, taking account of long term forecasts of supply and demand and … estimates of the volumes, prices and costs associated with water services."

# 2. Introduction

This paper sets out UÉ proposals for the design of the enduring framework for trade effluent customers. This technical paper considers the key trade effluent tariff design issues, namely:

- the geographical basis for charging customers;
- customer classification;
- cost allocation between trade effluent customer classes; and
- tariff structure.

The paper includes assessment of the options for each tariff design issue, the supporting evidence (including national and international precedent where relevant), and the proposals submitted by UÉ for the enduring Trade Effluent Charging Framework.

A separate paper has been submitted by UÉ to the CRU which reviews the design of the NDTF. It is important that the operation of the NDTF facilitates alignment with the Trade Effluent Charging Framework, particularly in relation to cost allocation. That separate technical paper therefore addresses the following objectives:

i. review key non-domestic tariff design aspects;
ii. propose amendments to the cost allocation exercise to facilitate alignment between the NDTF and the Trade Effluent Charging Framework; and
iii. set non-domestic 2024/2025 tariff year[16] rates based on 2024 allowed revenues and the most recently available cost drivers from 2021.

## 2.1 Why is a Trade Effluent Charging Framework needed?

Wastewater is collected through the sewer network and subsequently treated at a treatment plant. There are three core stages to the wastewater treatment process; primary treatment, secondary treatment and tertiary treatment and disposal. The process is designed to remove physical matter and pollutants from the wastewater. The level of treatment required at each stage will depend both on the volume and the strength or concentration of different pollutants in the wastewater. For example, the level of primary treatment required depends on the volume of wastewater collected whereas secondary treatment is designed to degrade the biological or chemical oxygen demand of the wastewater and the level required, therefore, depends on the strength or concentration of pollutants in the wastewater.

[16] The tariff year runs from 1st October to 30th September of the next calendar year. The 2024/2025 tariff year will run from 1st October 2024 until 30th September 2025.

Wastewater is discharged to sewers from each of UÉ's customer classes; domestic, non-domestic and trade effluent customers (who are a particular type of non-domestic customer). Wastewater from domestic and general non-domestic customers i.e., "sanitary wastewater", originates predominantly from the human metabolism or from day to day domestic type human activities, including washing and sanitation. This 'sanitary wastewater' has a stable range of pollutant levels /strength and a predictable volume per person per day. Wastewater from trade effluent customers i.e., "trade effluent" can vary quite significantly from sanitary wastewater and therefore results in very different treatment costs.

**Trade effluent has the meaning given to that term in the Local Government (Water Pollution) Act 1977 (as amended) but for the purposes of this document it ought to be generally understood as wastewater arising from a trade, service, research or manufacturing activity that is discharged to the sewer. Trade effluent has a different composition to "sanitary wastewater" and may contain additional or higher levels of pollutants that prove more difficult and costly to treat.**

The management of additional or higher levels of pollutants contained in trade effluent such as organic and inorganic matter or compounds, including nutrients or metals, leads to significantly increased costs for UÉ associated with the monitoring, conveyance or collection, treatment and disposal of the trade effluent.

UÉ assumed responsibility for water and wastewater services on 1st January 2014. Current water supply and wastewater tariff arrangements are set out in the Water Charges Plan (WCP). In accordance with section 3.1.1 of the WCP, UÉ has maintained trade effluent tariffs in accordance with the structures and arrangements in place in each LA area prior to 1st January 2014 until a new UÉ Trade Effluent Charging Framework has been approved by the CRU. Tariff levels and arrangements currently differ across the country resulting in inconsistent charges for trade effluent collection, treatment and disposal.

The development of existing non-domestic charging arrangements was guided by the Government's WSPP which recommended that large trade effluent customers should be subject to a trade effluent charge that reflects both volume and strength of the effluent (in accordance with the Polluter Pays Principle as specified in the EU Water Framework Directive). While such trade effluent charging arrangements currently exist in 18 LA areas, there are 13 LA areas where all trade effluent customers are subject to a volumetric wastewater charge only, with no account taken of trade effluent strength.

Recognising the potential inequity and complexity of the current arrangements, the CRU requested UÉ to provide a submission setting out tariff design options and a proposal for an enduring charging framework for trade effluent customers. The CRU directed that UÉ's

proposals should facilitate alignment with the NDTF. The CRU also provided UÉ with a suite of tariff principles to guide the design of the new trade effluent tariffs.

The overall cost allocation to all customer groups, including trade effluent, is considered in a separate paper on the review of the NDTF. This paper considers all other key trade effluent tariff design issues and rules; the geographical basis for charging customers; customer classification; cost allocation between trade effluent customer classes; and tariff structure.

## 2.2 Structure of the paper

This paper is structured as follows:

- **section 3** describes the principles provided by the CRU to guide the development of the tariff design elements of the NDTF including trade effluent charging;
- **section 4** provides an overview of the current trade effluent charging arrangements in place;
- **section 5** assesses the appropriate geographical basis for charging trade effluent customers in the enduring Trade Effluent Charging Framework;
- **section 6** assesses the appropriate approach to subdividing trade effluent customers into meaningful and similar categories on which to base charges;
- **section 7** considers the impact of UÉ's cost allocation proposals on trade effluent customers;
- **section 8** assesses the trade effluent tariff structure design which will recover costs appropriately from each trade effluent customer category;
- **section 9** introduces the key trade effluent tariff transitional arrangements which will be considered fully as part of the second consultation in 2024; and
- **section 10** presents indicative annual bill scenarios to help UÉ's trade effluent customers understand their indicative, enduring annual bill following the introduction of the Trade Effluent Charging Framework.

# 3. Principles to guide Trade Effluent Charging Framework

The CRU set out the following regulatory tariff principles to guide the development of key elements of the NDTF, including the Trade Effluent Charging Framework:

A. **Equity and no undue discrimination:** tariffs should be equitable and not unduly discriminate between customers;
B. **Efficiency in the use of water services[17]:** tariffs should incentivise the efficient use of water services;
C. **Cost reflectivity:** tariffs should be reflective of the costs of providing water services;
D. **Cost recovery:** tariffs should allow for the recovery of efficiently incurred costs of providing water services;
E. **Stability:** tariffs should be designed to ensure customer bill volatility is kept to a minimum;
F. **Simplicity:** tariffs should be clear, transparent and easy to understand.

The regulatory tariff principles are not given an order of priority. The CRU acknowledged that 'at times conflict and trade-offs can exist between tariff principles and it may be necessary for UÉ to strike an appropriate balance between the different principle objectives as necessary'.

[17] Water services means all services; water supply and wastewater (including trade effluent) services.

# 4. Summary of current trade effluent charging arrangements

The WCP[18] provides that trade effluent tariffs are retained on the same basis as set by the LAs on 31st December 2013. The approach for charging trade effluent customers for wastewater services prior to prior to 1st January 2014 was on the basis of various City and County Managers' Orders[19], setting out charging arrangements applicable in each LA. In accordance with section 3.1.1 of the WCP, UÉ will maintain trade effluent tariffs in accordance with the structures and arrangements in place in each LA area prior to 1st January 2014 until a new UÉ Trade Effluent Charging Framework is approved by the CRU. The purpose of this section is to summarise the tariff design currently in place, to provide context for UÉ's enduring tariff design proposals.

## 4.1 Geographical basis for charging

Prior to 1st January 2014, the LAs provided water services independently of each other. The current trade effluent charging arrangements continue to reflect these regional divisions and there are inconsistent approaches taken across the country (see section 4.3 below).

## 4.2 Customer classification

Legislation categorises certain customers as trade effluent customers. Specifically, Commercial and Industrial Activities discharging trade effluent to the public sewer require a licence under Section 16 of the Local Government (Water Pollution) Acts 1977 and 1990[20], with larger scale Industrial Activities requiring either an Industrial Emissions (IE) or Integrated Pollution Control (IPC) licence, both issued by the EPA in line with the relevant consenting processes under Section 99[21] of the EPA Act 1992, as amended, or a Waste licence, issued by the EPA under Section 52[22] of the Waste Management Act 1996, as amended.

In practice, there is an inconsistent approach taken to classifying trade effluent customers under current charging arrangements. In many (13) LA areas, all wastewater customers are charged NDTF wastewater rates, so no wastewater customers are classified as trade effluent for charging purposes (see table 4.1). In other (18) LA areas, large trade effluent customers are charged differently to other wastewater customers i.e., they are charged by Mogden

[18] See section 3.1.1 here.
[19] City and County Council managers previously issued their respective water services charges by way of a managers' order in accordance with the County Management Act 1940.
[20] Section 16 of the Local Government (Water Pollution) Act 1977.
[21] Section 99 of the Environmental Protection Act, 1992.
[22] Section 52 of the Waste Management Act 1996 providing for provisions of the EPA Act 1992 to apply to the granting of a waste license for discharging to sewer.

formula, individual agreement or by a specific volumetric rate (see table 4.1) as opposed to NDTF wastewater rates. Furthermore, across these 18 LA areas where a specific trade effluent charge exists, there are inconsistencies in the application of these charges.

## 4.3 Tariff structure

Existing trade effluent charges are typically categorised into:

- A volume component, which are trade effluent charges for collecting, treating and disposing of trade effluent; and
- A fixed component for compliance, licensing, monitoring and sampling fees.

These are summarised in sections 4.3.1 and 4.3.2 below.

### 4.3.1 Trade effluent collection, treatment and disposal charges

There are inconsistent approaches taken to trade effluent charges across the country as described above.

Table 4.1 summarises the current trade effluent charging arrangements in each LA area. There are currently 18 LA areas which have strength components included in the trade effluent charge, albeit through different approaches. Specifically, 'individual arrangements' such as individual trade effluent agreements, specific volumetric rate for larger trade effluent customers, fixed trade effluent charges, or 'LA area Mogden formula'.

There are 13 LA areas listed in table 4.1 as having trade effluent discharge which is charged on the basis of the applicable NDTF tariffs. In these 13 LA areas all trade effluent customers are subject to a volumetric wastewater charge, with no account taken of trade effluent strength (i.e., the level of pollutants in the wastewater). Trade effluent customers in these 13 LA areas have been charged the NDTF tariffs since 1st October 2021.

### Table 4.1 Current basis of trade effluent charge in each LA area

| No | LA area | Current trade effluent charging basis |
|---|---|---|
| 1 | Carlow | NDTF tariffs |
| 2 | Cavan | Individual trade effluent agreement |
| 3 | Clare | NDTF tariffs |
| 4 | Cork City | NDTF tariffs |
| 5 | Cork County | Specific volumetric rate for larger trade effluent producers |
| 6 | Donegal | Individual trade effluent agreement |
| 7 | Dublin City | Dublin City area Mogden formula |
| 8 | Dun Laoghaire Rathdown (DLR) | DLR area Mogden formula |
| 9 | Fingal City | Fingal area Mogden formula |
| 10 | Galway City | NDTF tariffs |
| 11 | Galway County | NDTF tariffs |
| 12 | Kerry | Fixed trade effluent charge |
| 13 | Kildare | Specific volumetric rate for larger trade effluent customers |
| 14 | Kilkenny | Individual trade effluent agreement |
| 15 | Laois | NDTF tariffs |
| 16 | Leitrim | NDTF tariffs |
| 17 | Limerick | Individual trade effluent agreement |
| 18 | Longford | Fixed trade effluent charge |
| 19 | Louth | Individual trade effluent agreement |
| 20 | Mayo | Individual trade effluent agreement |
| 21 | Meath | NDTF tariffs |
| 22 | Monaghan | Individual trade effluent agreement |
| 23 | Offaly | Individual trade effluent agreement |
| 24 | Roscommon | NDTF tariffs |

| | | |
|---|---|---|
| 25 | Sligo | NDTF tariffs |
| 26 | South Dublin | South Dublin area Mogden formula |
| 27 | Tipperary | Individual trade effluent agreement |
| 28 | Waterford | Individual trade effluent agreement |
| 29 | Westmeath | NDTF tariffs |
| 30 | Wexford | NDTF tariffs |
| 31 | Wicklow | NDTF tariffs |

- **Individual arrangements**

Some large trade effluent customers have individual charging arrangements, specified in a Model Form Agreement (MFA) based on guidance[23] provided in 2001 by the then Department of the Environment and Local Government. The MFA sets trade effluent charges to recover the marginal capital costs, and the average operating costs of collecting and treating trade effluent. There is also provision for a contribution towards a Capital Replacement Fund for the renewal of plant and the marginal costs of essential additional plant. The agreement also sets out the governance of the relationship with the customer covering such areas as the type and volume of discharges, monitoring and sampling and analysis.

Other charging examples falling into this category are customers who have trade effluent charges specified in their trade effluent discharge authorisation, and trade effluent customers who are charged a specific wastewater unit rate that differs from the NDTF wastewater volumetric unit charge.

- **LA area Mogden formula**

The Mogden formula is used in some LA areas, and most commonly by water services authorities in other jurisdictions, to calculate charges to collect, treat and dispose of trade effluent. Various components of treatment (for example volume, Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), and Suspended Solids (SS)) are separate inputs to the formula. Use of the Mogden formula enables each customer's charge to be set based on both the volume and strength of effluent discharged to the public network. Table 4.2 lists current Mogden charges for the four Dublin Local Authorities where a Mogden formula charge currently applies.

[23] The 'Model form of Agreement for wastewater services for non-domestic customers who reserve capacity', Clonmel Borough Council and the Department of the Environment and Local Government 2001, was introduced to assist in the development of a more comprehensive and transparent charging system by applying the polluter pays principle.

**Table 4.2 Current Mogden formulae applicable in four Dublin Local Authorities**

| Local Authority | R (€/m³) | V (€/m³) | B (€/m³) | S (€/m³) | Total €/m³ |
|---|---|---|---|---|---|
| Dublin City Council | €0.17 | €0.07 | €0.08 | €0.09 | €0.41 |
| Dun Laoghaire Rathdown County Council | €0.45 | €0.22 | €0.31 | €0.26 | €1.24 |
| Fingal County Council | €0.42 | €0.05 | €0.12 | €0.07 | €0.66 |
| South County Dublin | €0.16 | €0.06 | €0.11 | €0.06 | €0.40 |

The Mogden formula requires regular sampling and analysis of the trade effluent in order to derive the inputs to calculate the charge and is typically applied to larger industrial customers who have a Section 16, or an EPA issued licence (IE/IPC/Waste). A small number of LA areas utilise different volume and strength charges with parameters such as BOD and volume only.

- **NDTF**

There are 13 LA areas listed in table 4.1 as having trade effluent discharge which is charged on the basis of NDTF tariffs. This means the NDTF tariffs apply for all trade effluent customers in each tariff class, with four separate metered tariff classes and two separate unmetered tariff classes differentiated by consumption as follows:

**Table 4.3 Current NDTF wastewater tariffs**

| Wastewater Customer Classes | | | |
|---|---|---|---|
| **Tariff Class** | **Annual Consumption ($m^3$)** | **Standing Charge** | **Unit Rates** |
| Metered Band 1 | Less than 1,000$m^3$ | €44.81 p/a | €1.92 per $m^3$ |
| Metered Band 2 | Between 1,000$m^3$ and 19,999$m^3$ | €135.79 p/a | €1.82 per $m^3$ |
| Metered Band 3 | Between 20,000$m^3$ and 249,999$m^3$ | €1,969.50 p/a | €1.81 per $m^3$ |
| Metered Band 4 | Equal to or greater than 250,000$m^3$ | €25,266.78 p/a | €1.75 per $m^3$ |
| Unmetered Band 1 | Single Flat charge[24] | €243.14 p/a | |
| Unmetered Band 2 | Single Flat charge[25] | €1,955.79 p/a | |

### 4.3.2 Trade effluent compliance, licensing, monitoring and sampling fees

In addition to charges for collecting, treating and disposing of trade effluent, some licensed trade effluent customers pay annual monitoring fees. In some LA areas, a fixed trade effluent monitoring fee is applied based on the type of customer and is sometimes referred to as an administration fee. For example, some LA areas charge a monitoring fee of €200 for a restaurant, €400 for a petrol station and carwash and €1,000 for a hotel. In other LA areas, a variable monitoring fee is applied based on the number of inspections at a customer's premise and the number of samples tested. The distance travelled to carry out an inspection is accounted for in some LA area monitoring fees.

[24] Set at a relatively low level, commensurate with the tariff applied to customers in the Band 1 metered customer class.
[25] Set at a level commensurate with connections within the Band 2 metered customer class using 1,000$m^3$/year volume.

One category of Section 16 licence is a Fats, Oils and Greases (FOG) licence. TE FOG licences are granted predominantly to Food Service Establishment (FSE) customers. These customers may be charged an annual fixed charge (i.e., a FOG charge) to cover compliance and monitoring activities undertaken by UÉ. The rate differs depending on the LA area. Similar to other trade effluent tariffs, UÉ maintained FOG charges in accordance with the structures and arrangements in place in each LA area prior to 1st January 2014, hence many LA areas do not have FOG charges in place.

In the LA areas of Dublin City Council and South Dublin County Council, FOG charges are in place, and they are based on a compliance rating for each FOG licensee following compliance inspections undertaken by UE's Trade Effluent, Licensing & Inspection Services (TELIS) Program (formerly the Dublin FOG Program) at the licensed premises. Customers in these local authorities are charged an annual licence fee of €315 if fully compliant which can rise to €1,380 in Dublin City Council and €1,215 in South Dublin if the customer if found to be at the uppermost non-compliant rating.

Inspections are also conducted in Fingal County Council, Dun Laoghaire Rathdown County Council, Wicklow County Council and more recently in the cities of Galway, Limerick, Cork and Waterford under the TELIS programme, however FOG charges are not applicable in these LA areas. Where charges for customers with a TE FOG licence apply in other LA areas, these tend to be as prescribed by a pre-2014 LA area Managers Order.

# 5. TE Charging Design Option – Geographical basis for charging

Current trade effluent tariffs are set at a regional level reflecting LA area boundaries prior to 1st January 2014. A key issue for UÉ in designing the Trade Effluent Charging Framework, is to determine whether there should be a single national tariff regime, or whether tariffs should continue to vary geographically across the country and, if so, the basis of such variation.

Regulatory precedent is mixed as to whether trade effluent charges are set nationally or regionally. In England, Mogden formula parameters are set on a regional basis, but some of these regions have a larger population than Ireland. In Scotland and Wales, where population is similar to Ireland's, Mogden formula parameters are set on a national basis i.e., Mogden parameters based on the aggregate economics of all wastewater treatment plants nationally. Scottish Water is of particular relevance given that, upon formation in 2002, it inherited a business customer charging structure from three former water authorities where, varying tariffs and charging methodologies applied. Harmonisation of business charges was agreed in legislation and achieved in 2003 and continues to be a key Scottish Water operating principle[26]. In 2006, a phased change in tariffs or transition commenced so that all Scottish trade effluent customers would pay the national and harmonised trade effluent charges[27].

Given this mixed precedent, UÉ has assessed both national and regional options:

- Section 5.1 summarises a national tariff option;
- Section 5.2 summarises regional tariff options; and
- Section 5.3 assesses both options against the tariff principles.

## 5.1 National application of tariffs

Setting trade effluent charges on a national basis would result in customers paying the same tariff rates regardless of their location. Individual customers may still be subject to different final tariffs as the Mogden formula flexes tariffs based on the strength of discharge. However, the tariff parameters that go into the Mogden formula would be set nationally.

Other non-domestic tariffs are also set nationally. The CRU consulted on the appropriate geographical basis for charging non-domestic customers in 2018 and, following a review of

[26] Section 29D(2) of 2002 (amended by 2005) Water Services Scotland Act provides that a central tenet of the Minister's policy is that customers in the same customer group should pay at the same rate for the provision of the same service, regardless of their location, or of the actual cost of serving one customer as against another.
[27] See Water Industry for Scotland 'Charging for trade effluent: Our conclusions from the consultation' December 2006 for further information.

each option, determined that UÉ should proceed with a national tariff for non-domestic customers. The non-domestic tariffs were implemented on 1st October 2021. In December 2018, the CRU also determined[28] that UÉ should proceed with a national connection charging policy framework from 1st April 2019, with national charges where customers are charged the same regardless of location. Other utilities in Ireland such as gas, electricity[29] and the postal service all charge on a national basis.

## 5.2 Regional application of tariffs

The principal argument in favour of a regionally varying tariff is that the costs of treating trade effluent may differ significantly as a result of geography, wastewater disposal availability and/or capacity and population density. Such cost differences could be reflected in the tariffs charged to customers in different parts of the country. This approach would signal to customers where it is costly to provide wastewater services.

There are a number of ways in which regional trade effluent charges could be applied, however each has significant limitations.

- County boundaries – there is no economic basis for why costs should differ significantly across such administrative districts.
- A wastewater agglomeration or wastewater treatment plant specific basis i.e., trade effluent charges based on the economics of each individual wastewater agglomeration or treatment plant – this approach would be administratively costly and complex, given that there are approximately 1,074 agglomerations and 1,061 treatment plants. Banding into groups with common characteristics would reduce the number of tariff categories but could result in a regime with distinct charges for urban and rural customers.
- Individual agreements using an MFA type methodology – this approach would be complex with respect to information requirements, negotiation and application.

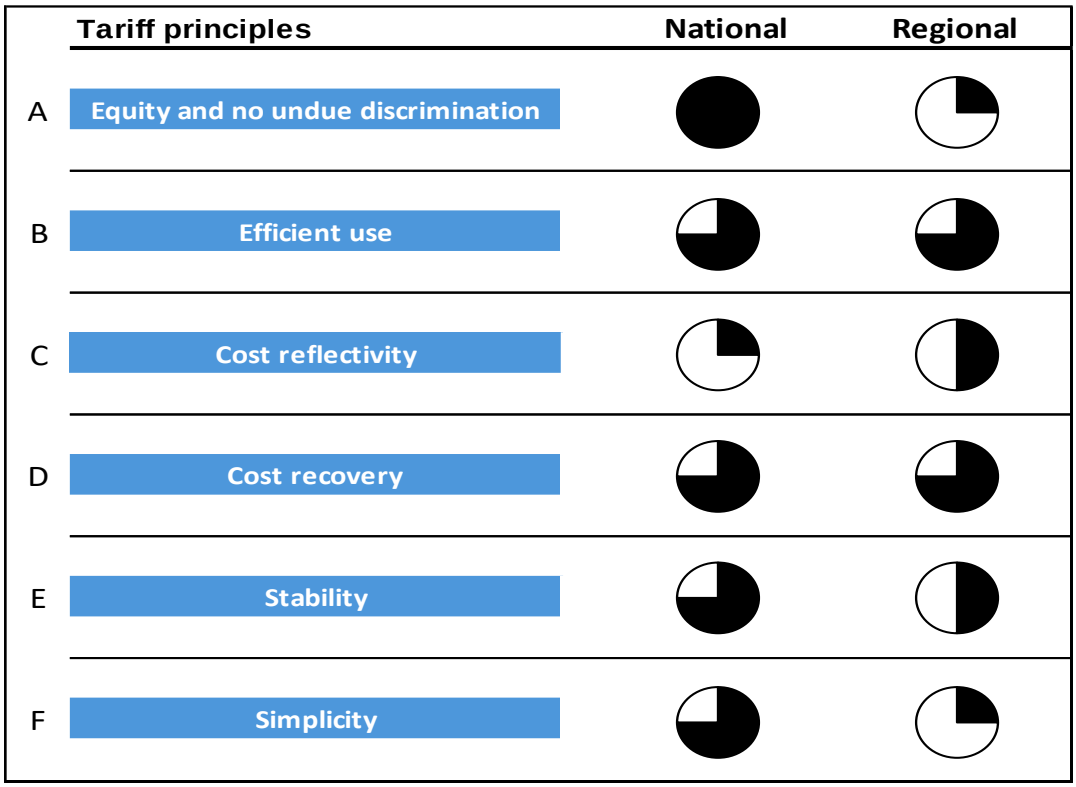
Varying trade effluent charges by region would increase system and administration costs for UÉ, resulting in higher trade effluent tariffs. It would also significantly increase the challenges associated with the roll out of the Trade Effluent Charging Framework, as it would involve a more complex tariff structure and a requirement to customise customer literature by region.

[28] See the CRU's decision on UÉ's Connection Charging Policy here.
[35] In electricity, rural customers do pay a higher standing charge as it costs more to supply electricity to rural properties further away from the network.

## 5.3 Assessment of options

UÉ has used 'Harvey Balls' to summarise the evaluation of both options against the CRU tariff principles.

**Figure 5.1 National or regional tariffs – summary evaluation against principles**




National trade effluent tariffs are proposed based on the following assessment against the CRU's tariff principles:

On the principles of ***'Equity and no undue discrimination'*** and ***'Simplicity'***, national tariffs perform better than regional tariffs. A national trade effluent tariff would apply equally to all trade effluent customers and would allow for a consistent charging framework across all non-domestic customers. UÉ is required to meet the same standards for wastewater across the whole country. These standards are set out in the EU's Urban Wastewater Treatment Directive and by the Environmental Protection Agency (EPA). These national standards support the application of a national Trade Effluent Charging Framework, which could be applied simply and equitably to all trade effluent customers. A national tariff is also simple and clear for customers to understand. In contrast, regional trade effluent tariffs are more complex and inconsistent with the geographical basis for charging other categories of non-domestic customers.

National tariffs also perform better than regional tariffs against the ***'Stability'*** principle. A national tariff spreads the costs of asset investments across a wider customer base and is therefore relatively stable. In contrast, regional trade effluent tariffs discriminate on the basis of past investment decisions and future asset requirements would negatively affect tariff stability.

On the principles of ***'Efficient use'*** and ***'Cost recovery'*** both national and regional tariffs perform equally well. An appropriately structured national or regional tariff will encourage efficient use of water resources and will recover the full non-domestic revenue requirement.

While regional tariffs have the potential to be more ***'Cost reflective'***, we consider any such benefit is only marginal as the Mogden formula (discussed in section 8) will be used to differentiate tariffs based on wastewater strength and volume.

On the basis of the above assessment, UÉ proposes to introduce a national trade effluent tariff regime. This presents an opportunity to standardise and harmonise the highly fragmented trade effluent customer charging arrangements currently in place.

**UÉ proposes**

**A Trade Effluent Charging Framework set on a national basis.**

# 6. Tariff Design Option – Customer Classification

In establishing a Trade Effluent Charging Framework, the approach is similar to that for NDTF wastewater tariffs. The major difference is that wastewater strength plays an important part in establishing charges for trade effluent. Trade effluent has a different composition to sanitary wastewater and may contain additional or higher levels of pollutants that prove more difficult and costly to treat.

Section 5.2 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper proposes that the overall wastewater customer classification should be revised and extended to accommodate trade effluent customer classes as follows.

**Table 6.1 Revised NDTF wastewater customer classes**

| Wastewater Customer Classes | |
|---|---|
| **Tariff Class** | **Annual Consumption ($m^3$)** |
| Band 1 | Less than 1,000$m^3$ |
| Band 2 | Between 1,000$m^3$ and 19,999$m^3$ |
| Band 3 | Between 20,000$m^3$ and 249,999$m^3$ |
| Band 4 | Equal to or greater than 250,000$m^3$ |
| Unmetered | Band 1 |
| | Band 2 |
| *Trade Effluent* | *Licence (or where UÉ has indicated to a customer that the discharge to sewer should be made under Licence).*[30] |

Non-domestic customers discharging trade effluent into the sewer are liable for trade effluent charges. There is a diverse range of trade effluent customers, from small shops to large

[30] Where UÉ establishes there is unlicensed trade effluent discharge, the customer will be liable for trade effluent charges.

industrial premises, which impose different costs on the wastewater system. It is therefore appropriate to further classify trade effluent customers into different categories to ensure their charges are efficient, fair and cost reflective. This approach will permit UÉ to set distinct charges for all customers in each Trade Effluent Category, reflective of the underlying costs in serving such customers.

In developing a Trade Effluent Charging Framework, UÉ must select an approach to classifying trade effluent customers into meaningful and similar groups. To do this:

- Section 6.1 discusses the further classification of trade effluent customers to facilitate cost allocation;
- Section 6.2 assesses options to classify trade effluent customers; and
- Section 6.3 defines the proposed trade effluent customer classes.

## 6.1 Classifying trade effluent customers to facilitate cost allocation

As discussed above, it may be appropriate to further classify trade effluent customers into different categories to ensure their charges are efficient, fair and cost reflective.

In considering whether to categorise trade effluent customers into different groups, UÉ has considered the cost allocation analysis undertaken and described in detail in section 6 of the Non-Domestic Tariff Design Review and Alignment proposals paper, including:

- The different costs imposed by all wastewater customers, including those relating to:
  - Volume;
  - Strength; and
  - Location.
- Whether it is efficient for UÉ to incur certain costs, such as those driven by regular sampling, for trade effluent customers likely to pose a low operational risk to the compliant operation of the network and/or receiving wastewater treatment plant.

In the following section we assess the different options for classifying customers to take account of potential differences in cost drivers between groups.

## 6.2 Assessing options for classifying trade effluent customers

UÉ has considered four approaches which could be used as a basis for classifying customers for charging purposes in the enduring Trade Effluent Charging Framework. These are:

- annual consumption;
- discharge strength;
- activity based categorisation; and
- a combination of both annual consumption and activity based categorisation.

The four approaches are described below.

### 6.2.1 Annual Consumption

UÉ determines an Annual Quantity (AQ) for non-domestic customers based upon their water usage from the previous year which is used to categorise each customer for the purpose of charging in the following tariff year.

Consistent with this approach, trade effluent customers could also be classified for trade effluent charges based on annual water volume usage[31], with separate charges set for each group. The advantage of classifying customers on an annual consumption basis is that it facilitates charges to be set in direct proportion to the volume of wastewater discharged.

This would be the basis upon which a trade effluent customer would be allocated to a customer class and accompanying tariff structure. Where twelve months consumption information does not exist, the AQ would be set equal to an assumed annual consumption agreed between UÉ and the relevant customer.

However, this approach does not consider that the strength of wastewater discharged can vary for different categories of trade effluent customers. Therefore, it does not facilitate charges to be set in direct proportion to the level of pollutants being discharged and, hence, the relative cost of treating and disposing of those pollutants[32].

### 6.2.2 Strength of trade effluent discharge

An alternative approach to classification of trade effluent customers could be to distinguish each trade effluent customer category by the strength of the wastewater discharged. This

[31] Section 22(9) of the Water Services (No. 2) Act 2013 provides that "For the purposes of calculating a charge…the amount of waste water discharged from a premises is deemed to be equal to the amount of water supplied to that premises, unless Irish Water and the customer agree otherwise".

[32] Secondary treatment and tertiary treatment including sludge disposal are stages of the wastewater treatment process which degrade the biological content of the wastewater and remove flocculated particles (a coagulant added to wastewater facilitates sediment to aggregate together for easier removal). The level of treatment necessary at these stages of the wastewater treatment process is dependent on the strength of the wastewater being discharged.

could be measured in BOD/COD milligrams per litre (mg/l) and SS (mg/l). The business activities and processes undertaken by trade effluent customers results in wastewater discharges with different concentrations of pollutants (BOD/COD and SS) than sanitary wastewater.

Trade effluent customers could be classified using average pollutant values calculated based on wastewater samples taken from the previous year. This would be the basis upon which a trade effluent customer would be allocated to a customer class and accompanying tariff structure. Different combinations of BOD/COD (mg/l) and/or SS (mg/l) could be used to set the tariff category boundaries. The advantage of classifying trade effluent customers on this basis is that it facilitates charges to be set in direct proportion to the concentration of pollutants discharged and, therefore, the relative cost of treating those pollutants. Sampling analysis could be used as the basis for allocating a trade effluent customer to a customer class and accompanying tariff structure.

Classification based on strength of wastewater discharged would rely on proving that the cost to treat pollutants for a particular category of trade effluent customer is different than to treat pollutants for other categories of trade effluent customers. The costs associated with secondary treatment are largely determined by the concentration of BOD or COD (mg/l) in the wastewater, while the costs associated with disposal are largely determined by SS (mg/l) concentration. UÉ's cost data cannot, at this point in time, be disaggregated sufficiently to reflect the specific costs at each stage of the treatment process. There is limited cost evidence, therefore, to meaningfully classify trade effluent customers on this basis currently.

In addition, this approach does not consider relative share of wastewater volumes, which is the most appropriate approach to allocating wastewater collection and primary treatment costs to trade effluent customer classes. Primary treatment involves screening and settlement of wastewater. This part of the wastewater treatment process is associated with the volume of wastewater flow.

### 6.2.3 Activity based classification

Trade effluent customers could be classified on the basis of their primary business activity or process. Business activity or process can be a good indicator of the strength and volume of a customer's wastewater discharge. Activity based classification facilitates trade effluent charges to be set in direct proportion to the strength of, and the associated cost of treating, the wastewater discharged. If a business involves the manufacture or processing of materials such as chemicals, metal finishing, food and drink manufacture or the operation of a car wash or laundrette, it is likely a trade effluent licence is required. Wastewater discharges range in size from just a few litres to hundreds of thousands of litres entering UÉ's sewers every day. The composition of wastewater discharged can also vary considerably. For example, the wastewater discharged by a small launderette will usually be a low volume but will contain a

relatively high concentration of pollutants (detergents and residues from the washing of clothes). This is very different to the wastewater discharged by industries carrying out an electroplating[33] process which is often large volume and contains a relatively high concentration of pollutants (often persistent and potentially toxic substances such as some metals). Wastewater discharged by a food processing business will probably be different again in that it may contain a significant organic pollutant load which is characterised by high BOD concentrations and is more readily treated by biological processes at wastewater treatment plants.

UÉ categorises similar business activities into defined trade effluent types. There are four main industry groups; Biopharma/Chemical, Waste, Food and Drink. UÉ's Wastewater Source Control and Licensing (WWSCL) team assign different business activities a description and number referred to as a 'Trade Effluent Categorisation Code' (TEC code) which reflects each trade effluent licensee's primary activity and could be used to support an activity based categorisation approach.

The wastewater discharged by trade effluent customers may present a significant operational risk[34] to the compliant operation of the network and/or treatment plant receiving the discharge. TEC code categories are designed to reflect the relative strength of effluent which UÉ accepts from different types of businesses. They provide a method of reviewing, informing and setting relative risk based on experience of treating wastewater discharged by different trade sectors.

Most UK Water and Sewerage Companies also use TEC codes to categorise similar business activities into defined trade effluent customer classes; for example, Anglian Water also uses TEC codes.[35] UÉ's TEC Codes have been developed based on TEC Codes used in UK Water and Sewerage Companies. A list of commonly used TEC Codes used by UK utilities has been published by UKWIR[36]. Over time UÉ has adapted the TEC Codes list to reflect differences between the industries operating in Ireland compared to the UK.

Each type of business activity is assigned a description and number which together are referred to as a 'TEC code'. E.g., Breweries are categorised as having a similar type of discharge and are allocated TEC code 1.1. Distilleries generate a different type of discharge and are allocated TEC code 6.1. Appendix 3 lists all the TEC codes currently applied to trade effluent customers by UÉ as part of its trade effluent licensing process.

[33] Electroplating is a form of metal finishing used in various industries, including aerospace, automotive, electronics and battery manufacturing.
[34] Operational risk could be in terms of the biological or chemical profile of the discharge, the rate of discharge, and/or the volume discharged.
[35] Anglian Water trade effluent wholesale charging guidance 2019.
[36] UKWIR trade effluent risk assessment sampling & monitoring: good practice guidance. Report Ref. No. 18/WW/23/10

However, this approach does not consider relative share of wastewater volumes, which is the most appropriate approach to allocating wastewater collection and primary treatment costs to trade effluent customer classes. This is on the basis that wastewater collection costs are associated with the volume of wastewater flow.

### 6.2.4 Activity based classification and annual consumption classification

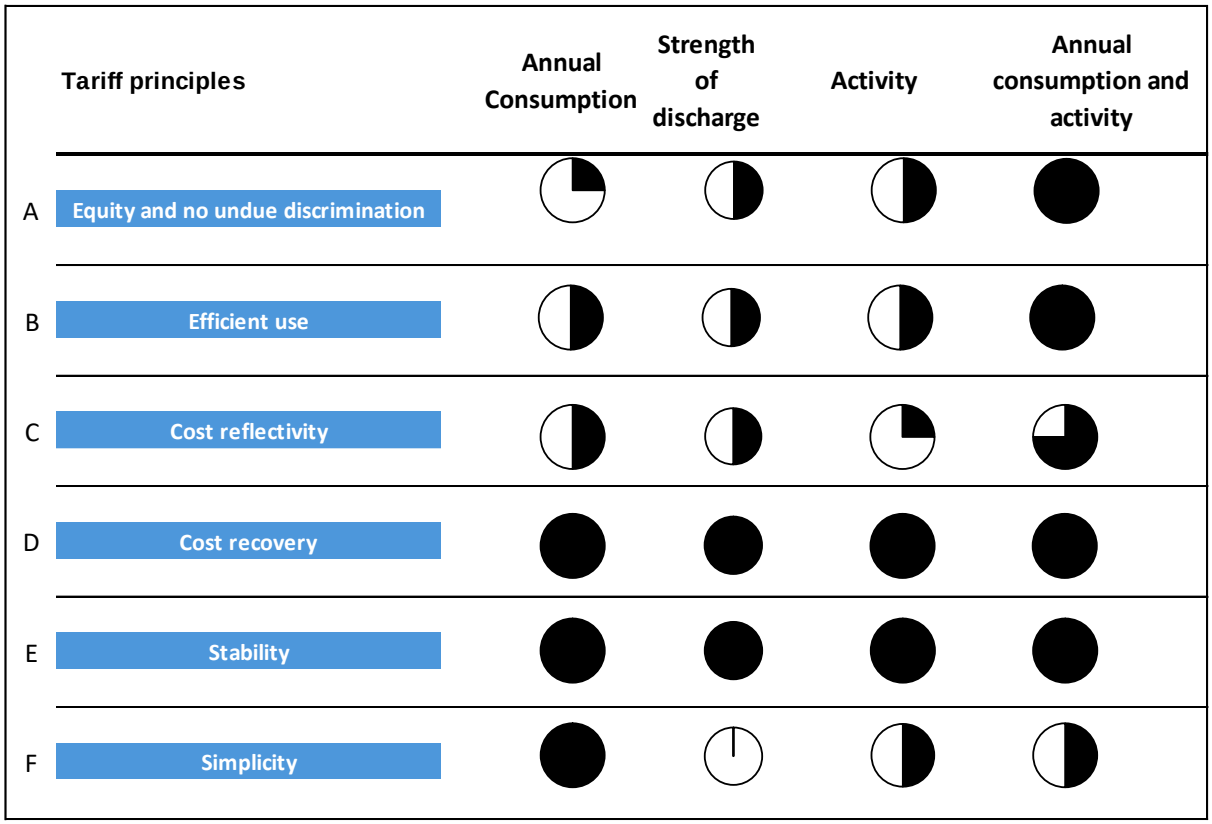
Trade effluent customers could be classified using a combination of both activity based classification and annual consumption.

As total wastewater costs comprise wastewater collection costs and wastewater treatment and disposal costs, trade effluent customer classification should arguably reflect both the relative share of wastewater volume discharged and relative strength of wastewater pollutants treated and disposed of.

### 6.2.5 Assessment of options

'Harvey Balls' are used to summarise the evaluation of the various classification approaches against the CRU tariff principles, as set out below.

**Figure 6.1 Customer classification approaches – evaluation against principles**



A combination of activity and annual consumption is proposed as the most suitable way to classify trade effluent customers based on the following assessment against the CRU's tariff principles.

All four approaches perform equally well on the principle of ***'Cost recovery'***. In each case, an appropriately designed tariff will recover UÉ's full non-domestic revenue requirement.

Similarly on the principle of ***'Stability'***, all approaches perform equally well as any changes are likely to be incremental with customer bill volatility expected to be managed over time.

On the principle of ***'Simplicity'***, annual consumption is the easiest approach for customers to understand as it is clearly linked to consumption. It is also the simplest approach for UÉ to implement as it is already used to classify non-domestic customers for water supply and wastewater charges. Classification by activity is challenging for customers to understand and must be transparent in its implementation. Using a combination of activity and annual consumption is also not easy for customers to understand and is challenging for UÉ to implement. Discharge strength performs poorest on this principle as UÉ does not yet have access to the necessary cost data to implement this approach.

For all other CRU principles, the combination of activity and annual consumption is the approach which clearly performs best.

On ***'Equity and no undue discrimination'***, a combination of activity and annual consumption facilitates annual updates to take into account changes in a customer's behaviour (e.g., water conservation) as well as taking account of business activity processes and profile of wastewater discharged. This enables both volume and strength components to be applied to the trade effluent charge, where required, thereby facilitating a more equitable treatment of costs. In contrast, classification based on either annual consumption or discharge strength or activity, is more rigid and will not reflect both the volume and strength of the wastewater.

On the principle of ***'Efficient use'***, the combination of activity and annual consumption performs best through its direct link to customer consumption and by providing a strong indication of the strength of effluent discharged. Trade effluent charges based on such a combination will encourage customers to be efficient in their use of wastewater services. In response to the price signal, significant trade effluent customers may seek to invest in process modification or onsite treatment in order to reduce their charge. This in turn would lessen the burden of treating trade effluent in UE's wastewater treatment plants, reducing ongoing operational and capital costs to the benefit of all non-domestic wastewater customers. Annual consumption and discharge strength do not perform as well on this principle; while each has a direct link to either customer consumption or strength of wastewater, neither has

both elements. Although still related to strength of wastewater, activity performs poorest on this principle as it is not as directly linked as discharge strength.

On the principle of ***'Cost reflectivity',*** the combination of activity and annual consumption is the best scoring approach as it considers not only the volume of wastewater being discharged but also the profile of effluent discharged for different business/industrial processes which, in turn, indicates wastewater strength.

In summary, based on the above assessment, UÉ is proposing a combination of activity and annual consumption as the optimum approach to classifying trade effluent customers. Importantly, this approach enables both the volume and strength of wastewater discharged to be taken into account.

**UÉ proposes**

**Classifying trade effluent customers for trade effluent charges based upon activity and annual consumption. A customer's classification will be reviewed annually based on the most recent, if any, changes to the business activity and the most recent consumption data.**

## 6.3 Proposed Trade Effluent customer class definitions

UÉ has identified options to define customer classes by activity and consumption.

- **Activity**:

Customers classes can be defined based on whether they undertake Commercial or Industrial Activities (as the difference in activity can drive differences in wastewater strength). Section 6.3.1 below defines Commercial and Industrial Activities.

- **Consumption**:

UÉ has identified options for defining customer classes based on annual consumption or usage, based on a simplified version of the NDTF customer classes. These are addressed in Section 6.4 overleaf.

### 6.3.1 Definition of Customer Activity

TEC codes are used to categorise trade effluent customers into defined Commercial Activities and Industrial Activities based on similarities in the strength of wastewater discharged. UÉ assigns business activities a TEC code description and number which reflects each trade effluent licensee's primary activity and relative strength of effluent discharged.

NACE code would provide another method of categorising trade effluent customers on the basis of their primary business activity. Unlike TEC codes, however, NACE coding would not take into account the relative strength of wastewater discharged.

A detailed description and guide to the TEC codes that UÉ proposes to classify as Commercial and Industrial Activities is contained in appendix 3. Commercial Activities and Industrial Activities are summarised as follows:

- **Commercial Activities**

Customers undertaking 'Commercial Activities' as outlined in appendix 3 are classified as trade effluent customers on the basis that they have a licence, or in instances where UÉ has indicated to a customer that the discharge to sewer should be made under licence. However, UÉ considers that the wastewater discharged by each customer, while legally a trade effluent discharge, is insignificant in volume and/or strength. As it is likely to pose a low operational risk to the compliant operation of the network and/or receiving treatment plant, such discharge can reasonably be expected to require a lower level of compliance and licensing management. Examples of Commercial Activities are service stations, swimming pools, healthcare facilities, FSEs and caravan parks (for a full list see Appendix 3, table A.3.2). Commercial Activities represent 6,121 or 89% of trade effluent licensees based on 2021 data.

- **Industrial Activities**

Customers undertaking 'Industrial Activities' as outlined in appendix 3 are classified as trade effluent customers on the basis that they have a licence, or in instances where UÉ has indicated to a customer that the discharge to sewer should be made under licence. As evidenced through sampling and monitoring or consent history, business activities categorised as 'Industrial Activities' may present significant operational risk to the compliant operation of the network and/or treatment plant receiving the discharge. The operational risk could be in terms of the biological or chemical profile of the discharge, the rate of discharge, and/or the volume presented. Trade effluent customers carrying out Industrial Activities will be subject to a high frequency sampling programme based on the nature and characterisation of wastewater discharged and the risk, or potential risk, it poses to UÉ's wastewater assets. Industrial Activities typically are manufacturing, processing, waste management or transport facilities (for a full list see Appendix 3, table A.3.3), for example, food and drink manufacturing, pharmaceutical manufacturing and waste facilities such as Landfills or waste transfer stations[37]. Industrial Activities represent 747 or 11% of trade effluent licensees based on 2021 data.

[37] Waste transfer station means a facility used primarily to treat, store, recycle or recover different types of waste.

## 6.4 Proposed customer classes for trade effluent charges

In a well-designed tariff structure, a customer class should be established if the cost to serve that particular class of customer is different to the cost to serve other classes of customers. Based on the different costs to serve trade effluent customers identified in UE's cost allocation analysis[38], UÉ considered two options for classifying trade effluent customers for trade effluent charges.

These options are summarised in table 6.2 and further discussed and evaluated below:

**Table 6.2 Trade Effluent Customer Class options considered**

| Option 1 – Two customer classes | | Option 2 – Three customer classes (proposal) | |
|---|---|---|---|
| **Category** | **Combination of activity and annual consumption m³** | **Category** | **Combination of activity and annual consumption m³** |
| 1 | • Commercial Activities; and<br>• Industrial Activities with annual consumption <1,000m³ | 1 | • Commercial Activities; and<br>• Industrial Activities with annual consumption <1,000m³ |
| | | 2 | • Industrial Activities with annual consumption between 1,000m³ and 249,999m³ |
| 2 | • Industrial Activities with annual consumption equal to or greater than 1,000m³ | 3 | • Industrial Activities with annual consumption equal to or greater than 250,000m³ |

UÉ proposes that trade effluent customers are differentiated initially by activity (which indicates the strength of the wastewater discharged), and then, by annual consumption (which indicates the volume of wastewater discharged).

[38] Explained in detail in section 6 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

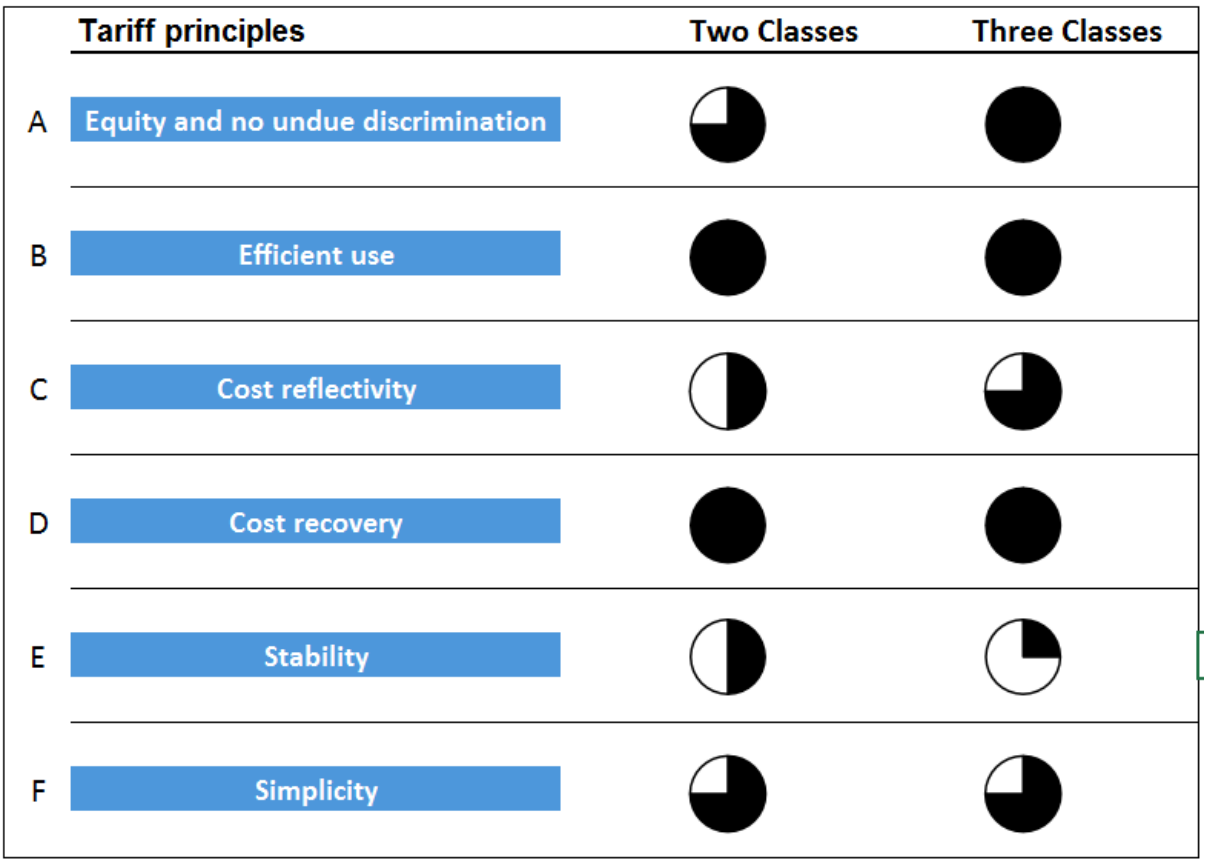
Under both options, the proposed Trade Effluent Category 1 would apply to the large majority (93%) of trade effluent customers. It is proposed that this customer classification would apply to:

- all trade effluent customers carrying out Commercial Activities; and
- trade effluent customers carrying out Industrial Activities with annual consumption less than 1,000m$^3$. This is on the basis that, while the wastewater may contain a high concentration of pollutants, its relatively low volume means it doesn't present a significant operational risk to the compliant operation of the wastewater treatment plant receiving the discharge. Setting a 1,000m$^3$ threshold also aligns with the existing threshold for NDTF wastewater Band 1.

Option 2 provides for an additional customer classification band. The consistent 250,000m$^3$ volume threshold across Trade Effluent Category 3 and standard wastewater customers (Band 4) ensures that wastewater consumers of similar consumption characteristics are applied consistent cost driver adjustments. UÉ applies adjustments to reflect gaps in data which restrict the extent to which we can implement a best practice FAC allocation approach, for further details see section 6 and Appendices 1 and 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper. Option 2 allows the same adjustment reflecting average network location to be consistently applied across Trade Effluent Category 3 and standard wastewater (Band 4) customers.

UÉ is not proposing the addition of a trade effluent customer class for users with usage in excess of 2,300,000m$^3$ per annum, equivalent to UÉ's proposed fifth band for water supply services under the Non-Domestic Tariff Framework. UÉ's analysis does not support a means to differentiate wastewater customers with usage above this threshold. UÉ's analysis identifies that proposed Band 5 water supply customers are located upstream in the network, closer to their water treatment plant relative to the average network location for Band 4 water supply customers. A similar analysis on wastewater and trade effluent customers does not demonstrate that customers discharging in excess of 2,300,000m$^3$ per annum are located upstream in the network, closer to the receiving wastewater treatment plant relative to the average network location for Band 4 wastewater service customers. The main findings are set out in summary form below using 'Harvey Ball' graphics.

**Figure 6.2 Trade Effluent Customer Classes – evaluation against principles**




When evaluated against the ***'Equity and no undue discrimination'*** principle, Option 2 is stronger. It best provides for varying rates by customer classes with similar wastewater discharge volumes. Consumers of similar characteristics are therefore charged the same amount for using the same service. Due to Trade Effluent Category 2 customers discharging a wider range of wastewater volume, Option 1 does not perform as well on this principle.

Both options generally perform well against the ***'Efficient use'*** principle as they both provide for the majority of costs to be recovered through the variable component of the bill.

Option 2 performs best against the ***'Cost reflectivity'*** principle as it allows for the best level of tariff differentiation between different groups of trade effluent customers within the cost allocation exercise. Option 2 allows UÉ to set the number of trade effluent customer classes, and the consumption boundary between each, to allow for the most cost reflective balance between:

1) customer groups; and
2) fixed (standing) and variable (volumetric) charging components.

For example, certain costs associated with wastewater sampling, source control and licensing and the management of trade effluent are directly allocated for recovery from trade effluent customers. High volume trade effluent discharge with high strength or concentration of pollutants presents the most significant operational risk to the compliant operation of the network and/or wastewater treatment plant receiving the discharge. As a result, more of UÉ's trade effluent compliance and licensing activities and costs are directed towards managing this type of discharge. The inclusion of a third customer class with a higher volume threshold better represents this allocation.

On ***'Cost recovery'***, all options perform strongly as tariffs under each option are appropriately set to recover the efficient costs incurred in providing wastewater services to customers (as allowed by the CRU in the revenue review process).

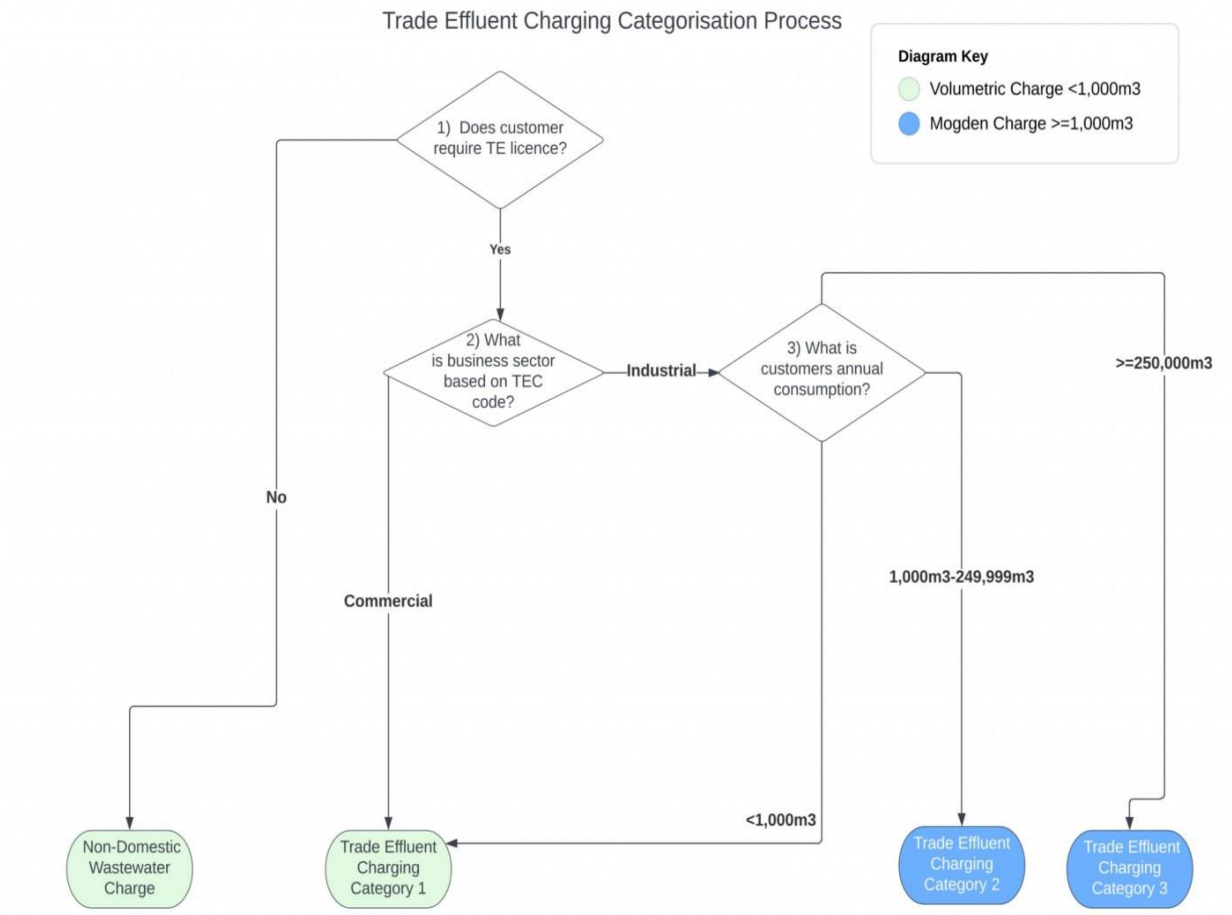
Options 1 and 2 are weak when evaluated against the ***'Stability'*** principle as they both represent a change to current trade effluent arrangements. Option 1 performs slightly better than option 2 as fewer customer classes will result in less customers moving class each year.

Options 1 and 2 both perform well when evaluated against the ***'Simplicity'*** principle. The broad combinations of activity and annual consumption underpinning each option should be relatively simple for customers to understand as they don't involve dynamic elements or multiple complex rules.

At an overall level, Option 2 performs best against the CRU tariff principles. The simplicity benefits of operating two trade effluent customer classes (as envisaged under Option 1), is more than offset by the benefits of equity and no undue discrimination, cost reflectivity, and stability of moving to three customer classes (Option 2). Option 2 provides better scope than Option 1 for tariff differentiation between customers based on their different costs to serve. Option 2 (three customer classes) is therefore proposed.

Figure 6.2 illustrates UÉ's proposed approach to categorising customers.

**Figure 6.2 Trade Effluent Customer Classes – approach to customer categorisation**




**UÉ proposes**

**Three customer classes for trade effluent charges, based upon a combination of activity and annual consumption:**

- **Trade Effluent Category 1 (Commercial Activities with any consumption, and Industrial Activities with annual consumption <1,000m$^3$);**
- **Trade Effluent Category 2 (Industrial Activities with annual consumption between 1,000m$^3$ and 249,999m$^3$); and**
- **Trade Effluent Category 3 (Industrial Activities with annual consumption equal to or greater than 250,000m$^3$).**

# 7. Impact of UÉ's Cost Allocation proposals on trade effluent customers

A key step in the tariff design process is to determine the cost of providing services to our proposed classes of water and wastewater customers. Cost of service is determined by allocating revenue requirements to customer classes based on indicators (discussed below) of how much water supply or wastewater services each class receives.

In order to facilitate the alignment of non-domestic and trade effluent tariffs, UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper has reviewed the overall cost allocation to all customer groups, including trade effluent[39]. Specifically, the paper proposes the appropriate allocation of costs to, and revenue recoverable from:

- water and wastewater services;
- domestic versus non-domestic, including trade effluent, customer classes;
- individual non-domestic customer classes; and
- the trade effluent customer class.

This section reviews UÉ's proposals on non-domestic (including trade effluent) cost allocation and assesses the implications for the Trade Effluent Charging Framework.

## 7.1 Recap of UÉ's cost allocation proposals

UE's cost allocation analysis is explained in detail in section 6 and appendix 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper. This section reviews the cost allocation proposals of most relevance to trade effluent customers:

- Section 7.1.1 reviews the cost driver values (volume, connections and PE) across each proposed Trade Effluent Category.
- Section 7.1.2 reviews the overall outputs of the cost allocation analysis.

### 7.1.1 Trade Effluent Cost Drivers

- **Share of water delivered**

As set out in appendix 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper, allocation of a large portion of indirect opex and capex related costs to customer groups is on the basis of share of water delivered. Specifically, UÉ proposes allocating the following wastewater costs to customer groups based on relative share of water delivered:

[39] See section 6 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper on www.cru.ie.

- 30% of operations and maintenance costs related to treatment and disposal;
- 100% of operations and maintenance costs related to collection;
- 30% of work and asset management costs related to treatment and disposal;
- 100% of work and asset management costs related to collection;
- 5% of operational expenditure on support services and non-controllable & innovation fund[40] costs;
- 69% of capital expenditure related to treatment and disposal; and
- 100% of capital expenditure on the collection network.

UÉ proposes applying a network location adjustment to collection costs (operations and maintenance costs related to collection, work and asset management costs related to collection and capital expenditure on the wastewater collection network) allocated on the basis of share of water delivered. A 20% adjustment is proposed for trade effluent customers with an annual quantity in excess of 250,000m$^3$.

Appendix 3, Table A3.6 of that paper sets out the total trade effluent share of water delivered to wastewater connections[41]. Table 7.1 below sets out each trade effluent customer class's share of water delivered to wastewater connections.

[40] The purpose of this allowance (innovation fund) is to allow UÉ to promote new technologies and improved ways of delivering water and wastewater service for customers within an incentive base regime where cost efficiency is the focus. For UÉ to draw down its innovation fund allowance it must first receive approval from the CRU for individual innovation projects.

[41] Appendix 3, table A3.6 also sets out each non-domestic customer Band's share of water delivered to wastewater connections.

**Table 7.1 2021 customer share of water delivered to trade effluent connections**

| Customer Class | | Volume of water delivered ML per day | % share of water delivered |
|---|---|---|---|
| Domestic | | 531 | 75% |
| Non-Domestic | | 177 | 25%[42] |
| **Trade Effluent Licence** | | **80** | **11%** |
| Category 1 | • Commercial Activities; and<br>• Industrial Activities with annual consumption <1,000m$^3$ | 19 | 3% |
| Category 2 | • Industrial Activities with annual consumption between 1,000m$^3$ and 249,999m$^3$ | 23 | 3% |
| Category 3 | • Industrial Activities with annual consumption equal to or greater than 250,000m$^3$ | 38 | 5% |
| **Total consumption** | **ML = Megalitre (1,000m$^3$)** | **708** | **100%** |

- **Relative share of connections**

As set out in appendix 3, part A of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper, UÉ proposes allocating the following wastewater costs to customer groups on the basis of relative share of connections:

- 100% operational expenditure associated with the Customer Operations function; and
- 90% of operational expenditure on support services and non-controllable & innovation fund costs.

Appendix 3, Table A3.8 sets out the total trade effluent share of wastewater connections[43]. Table 7.2 below sets out each trade effluent customer class's share of total trade effluent connections.

[42] Non-domestic wastewater volumes are reflective of any existing water in is not equal to water out arrangements. In addition, UÉ has included an assumption that water in is not equal to water out for trade effluent volumes where it is expected that customers undertaking certain activities will apply for a water in is not equal to water out arrangement.
[43] Appendix 3, table A3.8 of NDTF proposals paper also sets out each non-domestic customer Band's share of wastewater connections.

**Table 7.2 2021 trade effluent customer share in wastewater connections**

| Customer Class | | Connections to the public sewer | |
|---|---|---|---|
| | | **Approx. number of connections** | **Proportion of total connections** |
| Domestic | | 1,415,737 | 93.5% |
| Non-Domestic | | 98,281 | 6.5% |
| **Trade Effluent Licence** | | **6,868** | **0.45%** |
| Category 1 | • Commercial Activities; and<br>• Industrial Activities with annual consumption <1,000m$^3$ | 6,382 | 0.42% |
| Category 2 | • Industrial Activities with annual consumption between 1,000m$^3$ and 249,999m$^3$ | 471 | 0.03% |
| Category 3 | • Industrial Activities with annual consumption equal to or greater than 250,000m$^3$ | 15 | 0.001% |
| **Total** | | **1,514,018** | **100%** |

- **Relative share of PE**

To facilitate the development of a trade effluent charging framework and its alignment with the Non-Domestic Tariff Framework, UÉ proposes changing from wholly allocating wastewater treatment and disposal costs using wastewater volumes to an allocation using a combination of wastewater volume and strength cost drivers. Specifically, UÉ proposes using PE as a wastewater strength cost driver to allocate the following wastewater costs:

- 70% of operations and maintenance costs related to treatment and disposal;
- 70% of work and asset management costs related to treatment and disposal;
- 5% of operational expenditure on support services and non-controllable & innovation fund costs; and
- 31% of capital expenditure related to treatment and disposal.

UÉ proposes applying a treatment plant adjustment to treatment costs allocated on the basis of share of PE discharged with the exception of operational expenditure on support services

and non-controllable & innovation fund costs. A 15% adjustment is proposed for trade effluent customers undertaking industrial activities.

UÉ's basis for using PE as a cost driver to allocate wastewater treatment and disposal costs is explained in detail in section 6 and appendix 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

Table 7.3 sets out each customer class's share of PE discharged.

**Table 7.3 2021 customer shares in PE wastewater strength**

| Customer Class | | PE | % share of PE |
|---|---|---|---|
| Domestic | | 3,644,874 | 72.41% |
| Non-Domestic | | 1,388,263 | 27.58% |
| **Trade Effluent Licence** | | **706,977** | **14.05%** |
| Category 1 | • Commercial Activities; and<br>• Industrial Activities with annual consumption <1,000m$^3$ | 127,071 | 2.53% |
| Category 2 | • Industrial Activities with annual consumption between 1,000m$^3$ and 249,999m$^3$ | 282,824 | 5.62% |
| Category 3 | • Industrial Activities with annual consumption equal to or greater than 250,000m$^3$ | 297,082 | 5.90% |
| **Total PE** | | **5,033,137** | **100%** |

The cost allocation between domestic, non-domestic and trade effluent customers is materially affected by the proposed split of cost drivers set out in tables 7.1, 7.2 and 7.3, with adjustments to reflect gaps in data which restrict the extent to which UÉ can implement a best practice FAC allocation approach. As cost drivers and cost driver adjustments impact all customer classes (domestic, non-domestic and trade effluent), they are considered in detail in UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper. See section 6.1.5 for more information on the cost drivers and cost driver adjustments used to allocate wastewater costs.

### 7.1.2 Outputs of the cost allocation analysis

Table 7.4 compares:

- the proportion of UÉ's current cost allocation from non-domestic water and wastewater services (including trade effluent); and
  UÉ's proposed proportion of costs (as per the cost allocation analysis) for the same service.

**Table 7.4 Service cost allocations – current and proposed revision**

| Percentage of allowed revenue allocated to non-domestic costs for water, wastewater and trade effluent services | | | |
|---|---|---|---|
| | Water Supply % | Wastewater % | Trade Effluent % |
| Current cost allocation arrangements | 11.25% | 8.76% | 1.54% |
| Proposed Revised Cost Allocation Analysis | 12.00% | 5.96% | 4.92% |

There are several reasons for the divergence in costs by service, in particular:

- The current allocation of non-domestic costs to trade effluent services is based on the current inconsistent tariff structures for trade effluent removal and treatment; and
- The proportion of UÉ costs being spent on the provision of water supply services has increased slightly while the proportion being spent on wastewater supply services has decreased slightly.
- The increase in allocation from 1.54% to 4.92% for the trade effluent service includes a movement of 1.5% relating to the re-classification of some non-domestic customers from the wastewater service to the trade effluent service. Specifically, approximately 6,600 trade effluent customers (accounting for c.1.5% of current revenues) are currently assigned to wastewater Tariff Bands and contribute to wastewater revenue recovery. These customers will be reassigned to Trade Effluent Categories and recovery of their cost allocation will instead be recognised as trade effluent revenue under UÉ's proposals. The overall impact is a reduction in the allocation of costs to the wastewater service and an increase in the trade effluent service allocation.

This analysis suggests that the balance of non-domestic costs allocated between water supply and wastewater removal services should change.

Table 7.5 compares UÉ's updated non-domestic contribution to allowed revenue recovery, including the proposed trade effluent customer cost allocation, to the current contribution (CRU's 2019 Framework decision).

UE's cost allocation analysis estimates that, overall, non-domestic customers should contribute 23.73% of total allowed revenue, including a 4.92% contribution from trade effluent customers. Figure 7.1 demonstrates that the proposed allocation is similar to, albeit slightly above, the average non-domestic cost allocation across a range of UK water utilities[44].

**Table 7.5 Non-domestic cost allocation – current and proposed**

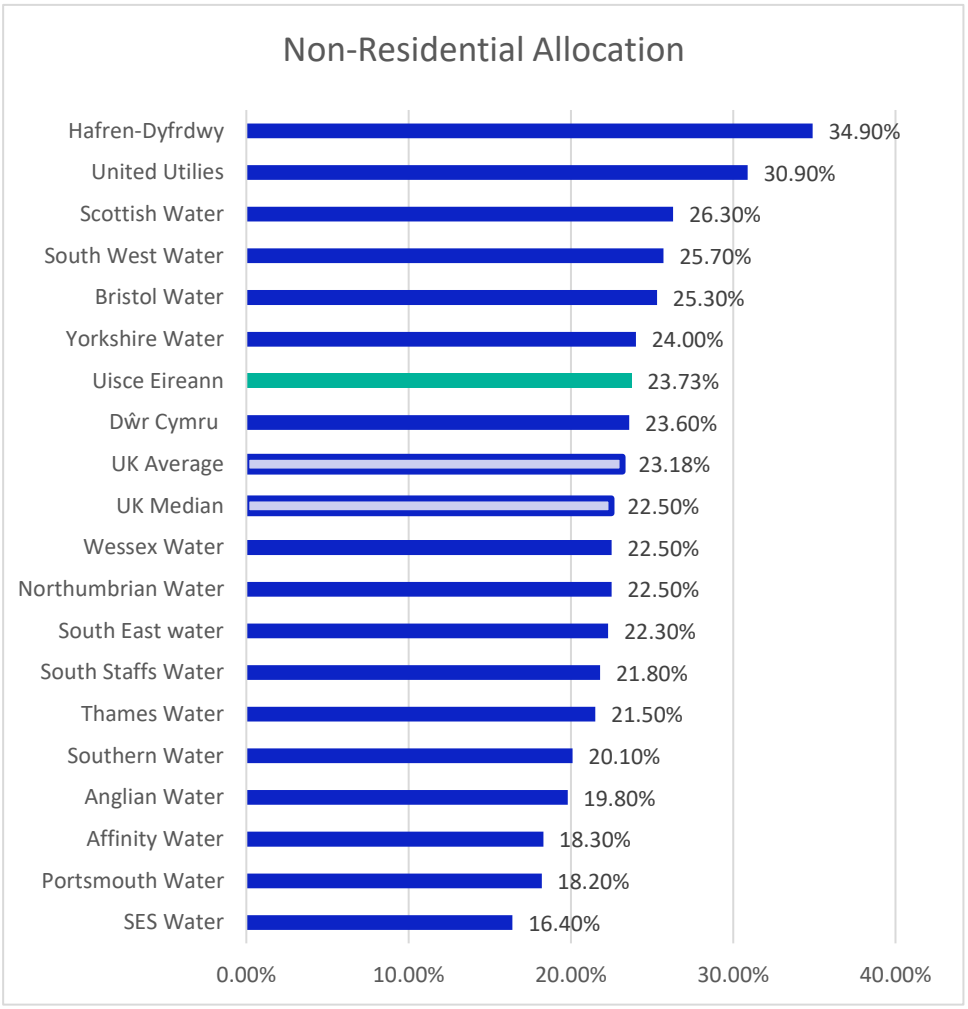
| Category | Service | | | | Overall |
|---|---|---|---|---|---|
| | Water Supply | Waste water | TE | Other | Total |
| Current cost allocation arrangements | 11.25% | 8.76% | 1.54% | 1.43% | 22.98% |
| Proposed Revised Cost Allocation Analysis | 12.00% | 5.96% | 4.92% | 0.84% | 23.73% |

Other includes annual revenues from individual charging arrangements that have been upheld by UÉ and additional services provided to non-domestic customers. As part of its 2019 Framework decision, the CRU asked UÉ to set up and implement a process for dealing with customers who claim to have an existing agreement or contract for the provision of water and wastewater. Legacy charging arrangements may include historical agreements or

[44] The Scottish Water cost allocation is taken from the 2020/21 Water Industry Commission for Scotland Regulatory Accounts (see table M7). The non-domestic cost allocation for all other UK utility companies is calculated using data taken from OFWAT companies populated Price Review 2019 financial models.

contracts entered into by a customer with a LA, which may include legally binding bespoke provisions relating to the provision of water services.

**Figure 7.1 UÉ's proposed non-domestic allocation compared to UK utilities[45]**




## 7.2 Impact of UÉ's cost allocation proposals on the trade effluent customer group

Table 7.6 assesses the balance of cost allocation between trade effluent customer groups for the trade effluent service as a result of the cost allocation analysis as described in detail in section 6 and appendix 2 of UÉ's accompanying Non-Domestic Tariff Design Review and Alignment proposals paper.

[45] The non-domestic allocation for Scottish Water and UÉ includes trade effluent costs. It is unclear if trade effluent costs are included in the financial models for OFWAT companies. The analysis assumes TE costs are included for companies in England and Wales.

**Table 7.6 Breakdown of trade effluent costs and allocation to customer classes**

| UÉ Trade Effluent Cost Allocation | | Trade Effluent Customer Classes | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | Un-metered | Total |
| 1. Compliance & Licensing Costs | €'m | 2.09 | 1.31 | 0.11 | 0.04 | 3.56 |
| | *%* | *3%* | *2%* | *0%* | *0%* | *5%* |
| 2. Fixed Costs | €'m | 0.97 | 0.74 | 0.60 | 0.02 | 2.33 |
| | *%* | *1%* | *1%* | *1%* | *0%* | *3%* |
| 3. Collection Costs | €'m | 3.58 | 4.87 | 6.80 | 0.02 | 15.26 |
| | *%* | *5%* | *7%* | *9%* | *0%* | *21%* |
| 4. Treatment Costs | €'m | 11.17 | 17.89 | 22.32 | 0.08 | 51.46 |
| | *%* | *15%* | *25%* | *31%* | *0%* | *71%* |
| Grand total | **€'m** | **17.82** | **24.81** | **29.83** | **0.16** | **72.62** |

The trade effluent customer total cost allocation (€72.62m) represents 4.92% of 2024 allowed revenues (€1,475m). See section 7 and appendix 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper for more information on cost allocation.

***1)*** **Compliance and licensing costs** relate to the costs associated with wastewater source control, licensing and the management of trade effluent. Management costs include the monitoring and sampling programme costs required to support the Trade Effluent Charging Framework. The programme records and monitors a trade effluent customer's compliance with the terms and conditions of their trade effluent licence. The programme will also gather regular sampling[46] at a pre-determined frequency to determine a representative strength of a trade effluent customer's effluent. Currently the trade effluent monitoring and sampling is carried out by both UÉ and Local Authorities. UÉ will have extended the UÉ monitoring and sampling programme to all

[46] Sampling allows UÉ to assess the volume and strength of a customer's wastewater discharge before it enters the sewer network.

Trade Effluent Category 2 and 3 customers in advance of the proposed implementation date of the Trade Effluent Charging Framework. UÉ also proposes sampling a representative cross section of Trade Effluent Category 1 customers across a range of Commercial Activities and Industrial Activities and consumption values in order to better understand the profile of wastewater strength discharged.

UÉ's WWSCL team deal directly with trade effluent customers on compliance and licence management. The costs of operating UÉ's Trade Effluent, Licensing & Inspection Services (TELIS) Program (formerly the Dublin FOG Program) for FSE customers are included within compliance costs recovered from Trade Effluent Category 1 customers. Table 7.6 summarises the overall allocation of compliance, licensing, monitoring and sampling costs to individual trade effluent customer classes while tables 7.7 and 7.8 summarises the cost allocation approach used for compliance and licensing costs and monitoring and sampling costs respectively.

UÉ has used Activity Based Costing (ABC) to estimate the allocation of compliance and licensing costs to individual trade effluent customer classes. UÉ has allocated compliance and licensing indirect costs based on the time and effort spent on these activities as indicated by UÉ's WWSCL team. Table 7.7 below summarises the output of UÉ's ABC analysis and resulting allocation of trade effluent compliance and licensing functional costs to UÉ's trade effluent customer classes.

As set out in appendix 2 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper, costs associated with the trade effluent sampling programme are directly allocated for recovery from trade effluent customers. Monitoring and sampling programme costs are allocated based on the number of samples that UÉ determines will be carried out annually for each customer class. Costs associated with monitoring and sampling are allocated for recovery from the compliance and licensing charge for Trade Effluent Category 1 customers and from the Mogden formula charge for Trade Effluent Category 2 and 3 customers (see sections 8.2.2 and 8.2.3).

UÉ's TERA tool is used to assess each trade effluent licensee against the likelihood of them presenting a risk to the compliant operation of the wastewater network and/or receiving wastewater treatment plant. The TERA tool is based on aspects such as the TEC Code, the volume and strength of effluent discharged and the receiving wastewater network and treatment plant capacity. The output of the TERA tool is used to inform control measures such as to the frequency of trade effluent sampling and compliance audits undertaken by the WWSCL team.

A higher frequency of trade effluent sampling and compliance audits are undertaken at customers sites where there is a higher likelihood of them presenting a risk to the compliant operation of wastewater network and/or receiving wastewater treatment

plants which entails higher monitoring and administration costs. Depending on TERA risk score, high, medium, and low, each customer's sampling frequency[47] for the year ahead is assigned as either 12, 8 or 4 respectively. Table 7.8 below estimates the number of samples that will be carried out each year for each trade effluent customer class; final numbers will be determined following the CRU's decision on the allowed revenue for the calendar year 2025.

[47] UÉ may adjust the sampling frequency for a Trade Effluent Category 2 or 3 customer to ensure an adequate number of samples to obtain a representative sample result for charging purposes.

**Table 7.7 Output of ABC analysis and allocation of compliance and licensing costs to Trade Effluent Category 1, 2 and 3 customers**

| TE functional Activity | A. Effort per function | B. Split of functional effort by Tariff Category | | | | C. (A*B) | | |
|---|---|---|---|---|---|---|---|---|
| | | Category 1 | Category 2 | Category 3 | Total | Category 1 | Category 2 | Category 3 |
| Compliance Management | 85% | 5% | 90% | 5% | **100%** | *4.3%* | *76.9%* | *4.3%* |
| Licence Management | 15% | 5% | 90% | 5% | **100%** | *0.7%* | *13.1%* | *0.7%* |
| Total | **100%** | | | | | **100%** | | |

**Notes:**

1. UÉ's WWSCL team undertakes two primary functional activities; management of trade effluent licences and monitoring trade effluent customer compliance with the terms of the trade effluent licence. Column A represents the time the team spends on each functional activity.
2. Column B represents the time and effort WWSCL spends on each functional activity broken down by tariff category.
3. Column (A*B) is used to allocate the indirect costs of trade effluent compliance and licensing management functional activities to UÉ's trade effluent customer classes based on the time and effort expended by UÉ's WWSCL team.

**Table 7.8 Allocation of monitoring and sampling costs to Trade Effluent Category 1, 2 and 3 customers**

| Trade effluent Customer Class | Estimate number of customers | Estimate no of samples per class | % allocation of sampling costs | Average no of samples per customer per annum |
|---|---|---|---|---|
| Category 1 | 6,382[48] | 1,544 | 31% | 0.2[49] |
| Category 2 | 471 | 3,372 | 66% | 7.1 |
| Category 3 | 15 | 144 | 3.0% | 9.6 |
| **Total** | **6,868** | **5,060** | **100%** | |

2) ***Fixed costs*** relate to trade effluent customers allocation of UÉ's costs to be recovered as a fixed bill component through the standing charge. Functional costs included for recovery through the standing charge are 'Customer Operations[50]' and 'Readiness to serve' costs and are recovered from all non-domestic, including trade effluent, customers. Full details on the approach are set out in section 7.2.1 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

3) ***Collection costs*** relate to wastewater collection and primary treatment[51] functional costs. These costs are allocated to all non-domestic, including trade effluent, customers, by relative share in wastewater volumes as they are costs that tend to vary in accordance with the amount of wastewater discharged.

4) ***Treatment costs*** relate to wastewater treatment and disposal functional costs. These costs are affected by the volume and strength of the wastewater being discharged and are allocated to all non-domestic customers, including trade effluent customers, using a combination of relative shares in wastewater volumes and PE. PE is the proposed

[48] Includes Trade Effluent Category 1 metered and unmetered customers.
[49] UÉ intends sampling a representative cross section of Trade Effluent Category 1 customers across a geographical range of Commercial Activities and Industrial Activities and consumption values.
[50] UÉ allocates indirect customer operations costs to each service product and customer class, including trade effluent, on the basis of number of connections. See Appendix 3 section B1.2 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper for full details.
[51] Primary treatment involves screening and settlement of wastewater. This part of the wastewater treatment process is independent of the strength of the wastewater being discharged.

cost driver used to allocate wastewater strength attributed costs to each customer class. UE's basis for using PE as a cost driver to allocate wastewater treatment and disposal costs is explained in detail in section 6 and appendix 3 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

For comparative purposes, Table 7.9 sets out UÉ's proposed allocation of wastewater collection, treatment and disposal costs to trade effluent customers carrying out Industrial Activities[52] versus a cost allocation exercise carried out by Scottish Water in 2005[53]. UÉ's proposed allocation of these costs to trade effluent customers aligns well with the range estimated by Scottish Water.

**Table 7.9 Comparison of Industrial trade effluent customers share of wastewater costs**

| Cost type | SW uncertainty range[54] | UE's proposed allocation |
|---|---|---|
| Trade effluent share of wastewater network or collection costs | 7% to 8% | 7.49% |
| Trade effluent share of wastewater treatment and disposal costs | 7.5% to 8.5% | 9.20% |

[52] Trade effluent customers carrying out Commercial Activities are generally not categorised as trade effluent customers in Scotland and to provide a like for like comparison are excluded.
[53] See table 30, page 80 'Analysis of whether there are significant Cross-Subsidies between the different Customer Groups served by Scottish Water', February 2005.
[54] See table 5.1, page 14 'Analysis of whether there are significant Cross-Subsidies between the different Customer Groups served by Scottish Water', February 2005.

# 8. Tariff Design Option – Tariff Structures

In establishing a trade effluent tariff structure, the process is similar to that applied to water supply and wastewater tariffs as part of the NDTF. The major difference is that wastewater strength plays an important part in establishing charges for trade effluent customers (as the wastewater discharged has a different composition than sanitary wastewater and may therefore be more costly to treat).

This section sets out UÉ's recommendations on the key trade effluent tariff structural design elements that are necessary for the development of a tariff regime consistent with the CRU principles outlined in section 3.

This section is structured as follows:

- Section 8.1 covers the key design issues in relation to structural elements common to the water supply, wastewater and trade effluent services charges; and
- Section 8.2 considers the appropriate tariff structure for the Trade Effluent Charging Framework.

## 8.1 Common elements of water supply, wastewater and trade effluent tariff structures

In relation to structural elements of the trade effluent tariffs common with standard water supply and wastewater tariffs, UÉ has considered the following central design issues:

- Should trade effluent tariffs be applied to customers on a per connection or aggregate (for example all wastewater discharged by connections at a site or across an account) basis?
- Should tariffs be Multi-Part (comprise fixed and variable elements) or one-part (entirely fixed or variable)?
- On what basis should unmetered trade effluent customers be charged?
- What is the appropriate approach to charging mixed use trade effluent customers?
- What approach should be applied in circumstances where UÉ agrees with a trade effluent customer that the volume of wastewater discharged does not equal the volume of water supplied?
- What is the appropriate approach to individual customer agreements?

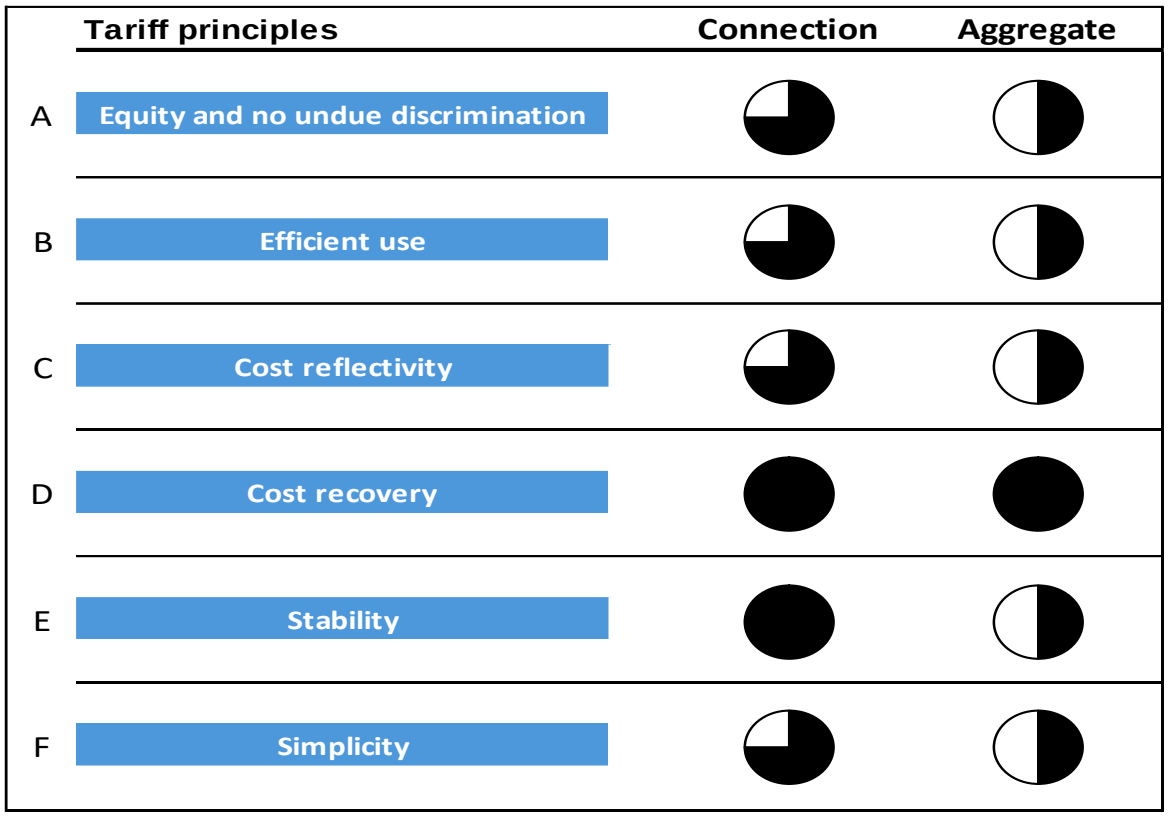
### 8.1.1 Should charges for trade effluent be on a per connection or aggregate basis?

A decision has to be made as to whether trade effluent charges should be grouped or ungrouped.

- Grouped charging is applying a single charge to all connections on an account or applying a single charge for all connections at a ***site***.
- Ungrouped charging is charging for the wastewater discharged by each trade effluent ***connection***.

Current LA practice is to apply charges for trade effluent services at a connection level. UÉ is already applying tariffs on a per connection basis as part of the NDTF. Below is an evaluation of the two charging options using 'Harvey Ball' graphics.

**Figure 8.1 Trade effluent charges on a connection or aggregate basis – evaluation against principles**




Charging on a connection basis performs best when evaluated against the CRU principles.

On ***'Equity and no undue discrimination'***, charging on a connection basis performs best as it reflects the assessment that the maintenance of a connection is the primary driver of fixed costs. The cost of providing wastewater services to more than one site is greater than providing it to a single location. Charging on either an account or site basis does not reflect this assessment and therefore does not perform as well.

On ***'Efficient use'***, a connection basis is again the best option as it encourages efficient usage at the direct point of discharge. Charging on an aggregate (site or account) basis may provide scale economies which may offset efficient usage.

On ***'Cost reflectivity'***, charging on a connection basis rates higher than aggregate charging as it reflects the assessment that the maintenance of a connection is the primary driver of fixed costs. For example, trade effluent monitoring and sampling activities are carried out on a per connection basis.

Both options will recover the required non-domestic revenue and perform equally well on ***'Cost recovery'***.

On ***'Simplicity'*** and ***'Stability'***, a connection basis performs strongest as it is the current method of charging for other water services as part of the NDTF and will, therefore, be familiar to customers.

**UÉ proposes**

**Charging trade effluent tariffs on a per connection basis.**

### 8.1.2 Single, Two Part or Multi Part tariff?

The second design issue common to water supply, wastewater and trade effluent services is whether to introduce a Single, a Two Part or a Multi Part tariff.

With a Single Part tariff, a customer's bill has only one element. For trade effluent, Single Part tariffs could be designed on a volumetric only basis, where a customer's charge is exclusively determined by the volume of the wastewater discharged.

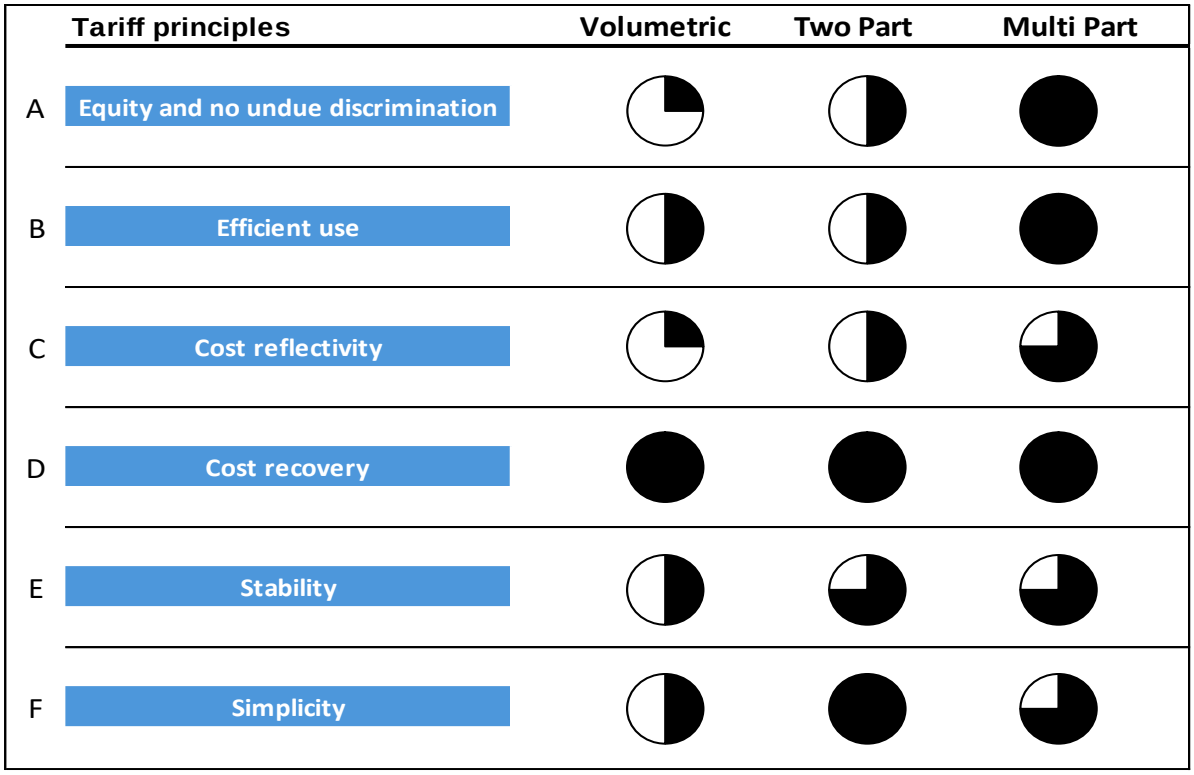
With Two Part tariffs, a customer's bill can have two elements, typically a standing charge and a volumetric charge. Currently, metered non-domestic water supply and wastewater services charges are set on this basis. A Two Part tariff is also the most common tariff structure used by utility companies elsewhere. This is the structure in place for gas and electricity in Ireland, and for gas, electricity and water supply and wastewater services charges in the UK. In general, Two Part tariffs are most commonplace in sectors where uncertain demand is combined with a situation where a large proportion of the utility's costs are fixed, as in the water sector.

A Multi Part tariff can occur where additional fixed costs are incurred by the utility company, separate to the costs already recovered via the Two Part tariff, and apply for providing

specialised services to a specific group of customers. Multi Part tariffs are commonly used by utility companies elsewhere in establishing charges for users discharging wastewater with a different composition than sanitary wastewater. For example, the Mogden Formula is a Multi Part tariff commonly used in the UK and Ireland to represent the average costs of treating trade effluents in terms of wastewater volume costs and wastewater strength costs.

Below, an evaluation of the three options is set out using 'Harvey Ball' graphics.

**Figure 8.2 Single, Two Part or Multi Part tariffs – evaluation against principles**




On ***'Equity and no undue discrimination'***, A volumetric tariff is inherently inequitable as trade effluent customers may not pay an appropriate share of fixed costs and will not be charged based on the strength of wastewater discharged, which results in cross subsidisation between wastewater customers. A Two Part tariff performs better as it ensures that all trade effluent customers will contribute towards both fixed and volumetric costs but means they may not pay an appropriate share of the cost of removing wastewater pollutants and/or sampling and licensing costs. A Multi Part tariff is the strongest option as it ensures that all trade effluent customers will contribute towards all trade effluent costs incurred.

On ***'Efficient use'***, a Multi Part tariff performs best as it facilitates separate charging components to be developed which take account of the volume and strength of wastewater

discharged thereby encouraging efficiency among trade effluent customers. By not taking account of trade effluent strength components, neither volumetric nor Two Part tariffs will send a clear enough signal to customers to assess their trade effluent impact and reduce it where possible.

On ***'Cost reflectivity'***, a volumetric only tariff would not be cost reflective as many wastewater service costs are fixed or incurred based on the strength of wastewater discharged. A Two Part tariff performs better but does not appropriately reflect the variable oxygen demand, sludge treatment and disposal costs associated with trade effluent. A Multi Part tariff is the strongest option as it provides a means of appropriately collecting all fixed and variable trade effluent cost components from all trade effluent customers.

An appropriately designed tariff under all options will recover the required trade effluent revenue and hence all perform equally well on ***'Cost recovery'***.

On ***'Stability'***, the Two Part and Multi Part tariff perform equally well as they are both represented among the current range of inconsistent approaches taken to discharge fees across the country. A volumetric tariff is the weakest on this principle as it is dependent on demand and does not provide a means of recovering fixed costs independently of the volume of wastewater discharged.

A Two Part tariff is already in place for water supply and wastewater customers so is an easy structure for the utility to implement and for the customer to understand and it therefore rates highly on ***'Simplicity'***. A Multi Part tariff also performs strongly as many trade effluent charges are currently set on this basis and it is therefore familiar to customers. A volumetric tariff does not rate as highly as customers would not be accustomed to full variability.

At an aggregate level, charging on a Multi Part basis is the strongest option across the majority of CRU principles. It is also consistent with some current practice and international utility precedent for charging trade effluent customers.

Within a Multi Part tariff structure for trade effluent customers it is important to strike the correct balance between the fixed, volumetric and strength components of the charge to facilitate an equitable treatment of costs. We consider this balance in section 8.2.

**UÉ proposes**

**A Multi Part tariffs for trade effluent, comprising fixed elements and variable elements relating to the volume and strength of wastewater discharged.**

### 8.1.3 On what basis should UÉ charge unmetered customers?

Approximately 6,750 or 98% of the trade effluent customer base have their water consumption measured by a meter. UÉ must determine the appropriate approach to setting charges for the c.120 or 2% unmetered customers. Unmetered connections are those connections that, for technical or other reasons, do not have a water or wastewater meter. The unmetered tariff must be based on a factor (or factors) which allows UÉ to determine the appropriate charge.

**What are the options for the unmetered charge?**

There are two options with respect to setting the unmetered charge:

1. an assessed charge based upon the value of a business type or activity; or
2. a flat charge, whereby all customers are charged the same amount.

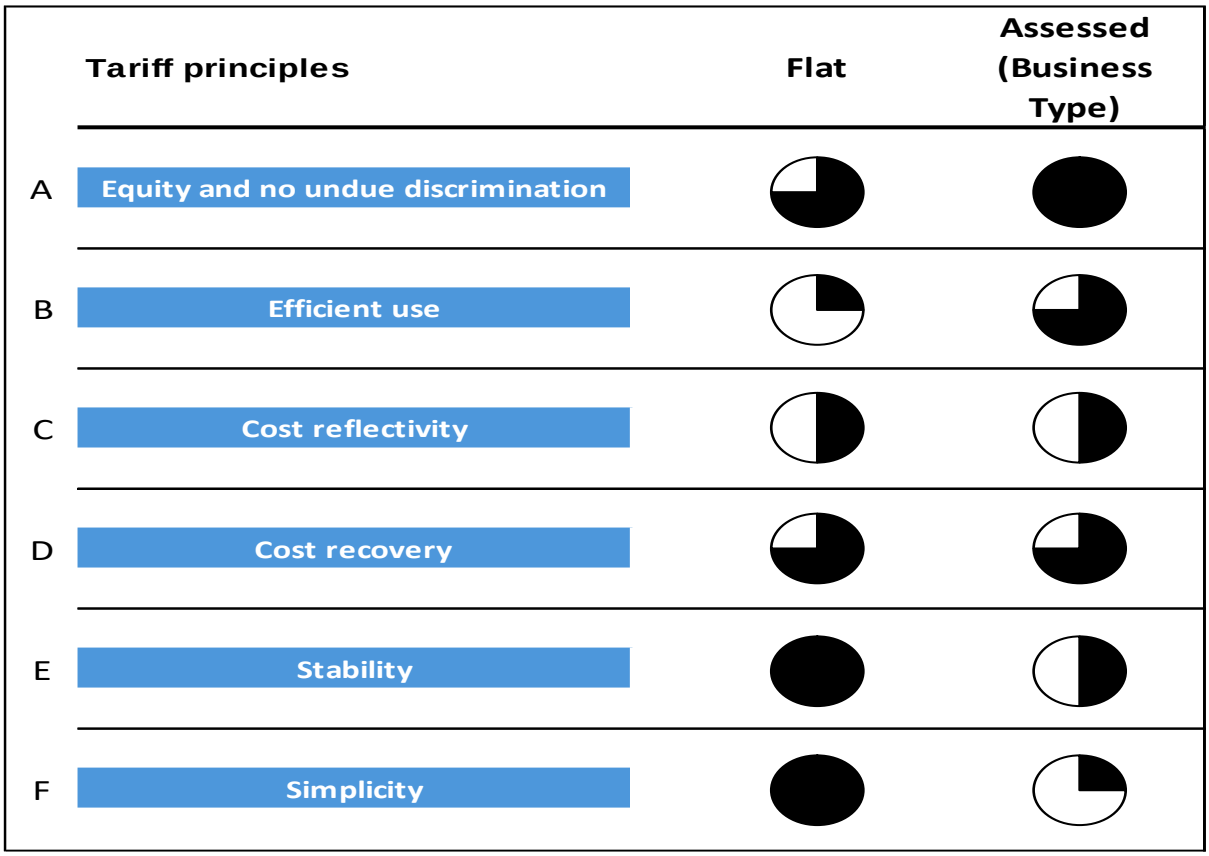
*Option 1 – Assessment based on business type or activity*

Unmetered customers could be charged based on an assigned wastewater strength rate for trade effluent customers that are known to typically discharge excess strengths, but it would be impractical to sample **all** these customers regularly. In these cases, assigned strengths for specific types of trade effluent customers are determined based on representative sampling or industry data, and they have an unmetered charge calculated that includes a higher level of pollutants than sanitary wastewater. Unmetered charges could vary based on the type of business and their varying assigned strengths of different pollutants.

*Option 2 – Flat charge*

This would mean that all unmetered trade effluent customers would pay the same amount, regardless of their circumstances or the volume and strength of wastewater they discharge.

**Figure 8.3 Unmetered tariff structure evaluation against principles**




On ***'Equity and no undue discrimination'***, and ***'Efficient use'***, a charge based on business type is stronger than a flat charge because it would be based on an assessment that is clearly correlated with the type of wastewater discharged. The stronger the wastewater discharged, the more a customer pays. While a flat charge is equitable in that it would be applied equally to all unmetered customers, it does not encourage trade effluent customers to be efficient in their usage of wastewater services.

On ***'Cost reflectivity'***, a flat tariff and an assessed charge based on business type perform equally. Neither are inherently cost reflective, but both can be designed to reflect the associated unmetered customer costs.

On ***'Cost recovery'***, a flat tariff and an assessed charge based on business type perform equally. Designed correctly, both will recover the revenue required from non-domestic customers.

On ***'Stability'***, a flat tariff performs strongest as it is common in the current charging arrangements and is fixed for a period of time. In contrast, assessed charging based on business type is subject to greater variability and is weaker on this principle.

A flat tariff is an easy structure for the utility to implement and for the customer to understand and it rates highly on ***'Simplicity'***. Assessed charging based on business type is more complex and would require UÉ to have access to data on business type, including trade effluent monitoring and sampling, which is not yet available.

In summary, a flat unmetered charge is currently the strongest option across the CRU principles. It is also consistent with current practice.

There are a very small number of unmetered trade effluent customers (c.120) and 98% of which undertake Commercial Activities with only 2% customers carrying out Industrial Activities which are likely to be relatively small scale operations with usage that is less 1,000$m^3$ per annum.

As a result, a flat unmetered tariff should be set at a reasonably low level to improve equity with metered customers. In certain circumstances UÉ may consider metering options to establish an accurate volume of trade effluent, particularly in the case where a customer is carrying out Industrial Activities.

**UÉ proposes**

**To apply a single flat charge whereby all unmetered trade effluent customers pay the same amount. UÉ also proposes to set the unmetered charge for the trade effluent service at a relatively low level, commensurate with the tariff applied to metered Trade Effluent Category 1 customers.**

### 8.1.4 UÉ's approach to charging mixed use customers

Mixed use customers avail of water and wastewater services for both domestic and non-domestic purposes. From an equity perspective, it is important that the charging arrangements that apply to domestic customers, are similarly applied to the domestic portion of UÉ's mixed use trade effluent customers' usage (as far as practicable). The DA represents the portion (volume in $m^3$ per annum) of water and wastewater allowed for domestic purposes in mixed use premises. Water and wastewater consumed above this allowance will be charged the applicable water supply and trade effluent unit rate (€/$m^3$).

The DA will be applied in accordance with the levels set by Ministerial Order[55]. The DA will be 213$m^3$ (for each of water and wastewater) for mixed use premises with 1 to 4 occupants.

[55] The Water Services Act 2007 (Threshold Amount and Allowance Amount) Order 2017 SI No 597 of 2017 specifies $m^3$ amounts below which Irish Water shall provide water services without charge to a domestic customer.

Mixed use premises with occupancy greater than 4 will get an extra 25m$^3$ per annum (for each of water and wastewater) per additional occupant.

### 8.1.5 Water in and wastewater out

In normal circumstances the volume of water supplied to a premises is deemed equal to the volume of wastewater removed from a premises. However, legislation provides for UÉ and the customer to agree that the amount of wastewater removed is different to the amount of water supplied[56]. This may arise, for example, if a non-domestic customer uses a significant proportion of the water supplied in a manufacturing or industrial process, resulting in that proportion never reaching the public sewer.

As part of its 2019 Framework decision, the CRU asked UÉ develop a standardised 'Water In / Water Out or WIWO' application process for non-domestic customers. A standardised process is now in place and the application process can be reviewed on UÉ's website[57]. The current process excludes UÉ from entering into a WIWO agreement with a customer who has, or whom UÉ considers ought to have, a trade effluent discharge authorisation until the Trade Effluent Charging Framework is implemented.

This is justified on the basis that, if trade effluent is being discharged, UÉ must be satisfied that appropriate trade effluent charges are being applied before entering into a reduced wastewater agreement with the customer. There are currently 13 LA areas where all trade effluent customers are subject to a volumetric wastewater charge only, with no account taken of trade effluent strength components i.e., UÉ considers that appropriate trade effluent charges are not yet in place in these LA areas.

UÉ proposes the following for trade effluent producers in these 13 LA areas in circumstances where it is agreed that the amount of water supplied to a customer's premises can vary from the amount of wastewater discharged to the public sewer[58]:

- From Trade Effluent Charging Framework go-live, apply the final trade effluent charges published following the second consultation, for those trade effluent producers who apply and are deemed to meet the WIWO criteria.

[56] Section 22(9) of the Water Services (No. 2) Act 2013 provides that "For the purposes of calculating a charge…the amount of waste water discharged from a premises is deemed to be equal to the amount of water supplied to that premises, unless UÉ and the customer agree otherwise".
[57] Details on the application process, including an application form, are available here.
[58] The 13 LA areas which currently charge for TE based on a wastewater volumetric rate only as highlighted in table 4.1; Carlow, Clare, Cork City, Galway City and County, Laois, Leitrim, Meath, Roscommon, Sligo, Westmeath, Wexford and Wicklow.

### 8.1.6 Customers on legacy legally binding contracts

Only in instances where a customer has proven to the satisfaction of UÉ that they have a legacy charging arrangement that is binding on UÉ, is UÉ obliged to honour an individual agreement or contract (until such time as that arrangement is terminated or expires).

As set out in section 4, some TE customers may claim to have individual charging arrangements. These legacy arrangements may include historical agreements or contracts entered into by a customer with a LA, which may include legally binding bespoke provisions relating to the provision of trade effluent services wastewater services. For the avoidance of doubt such charging arrangements will not include references to charges in licences issued under legislation in relation to the discharge of trade effluent (any reference to charges in such licences being superseded and replaced by the new charging regime set out in this paper).

UÉ has a process in place to deal with customers, including trade effluent customers, who claim to have an existing agreement or contract for the provision of water and wastewater services (including in respect of trade effluent). This fair and transparent process[59] allows UÉ to make a determination as to whether it is legally bound to honour an individual agreement or contract and ultimately communicate this to customers.

## 8.2 Designing the trade effluent tariff structure

Within a multi-part trade effluent tariff structure, it is important to strike the correct balance between the fixed and variable (volume and strength) components of the charge, for each customer class. This section summarises UÉ's proposed approach to this matter:

- Sections 8.2.1 and 8.2.2 set out UÉ's proposed approach to the fixed elements; standing charge and trade effluent specific compliance and licensing fixed elements respectively; and
- Section 8.2.3 sets out UÉ's proposed approach to the variable volume and strength elements.

### 8.2.1 Setting the standing charge component

The intent of a standing charge is to recover certain costs as a fixed component of a customer's bill. This approach is standard practice in the utility sector and reflects that for any network there is a fixed cost associated with connection to the system which does not change with consumption. UÉ proposes that trade effluent customers should therefore contribute their share of the functional costs recovered through annual standing charges i.e., UÉ proposes that NDTF standing charges will apply to all trade effluent customers. Section 7.2.1

[59] See UÉ's website (link here) for more information on the process for applying and on how UÉ will make a determination as to whether it is legally bound to honour a Legacy Charging Arrangement.

of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper sets out proposals for the functional costs to be recovered from all non-domestic customers, including trade effluent customers.

### 8.2.2 Setting the trade effluent compliance and licensing charge component

UÉ proposes attributing compliance and licensing costs for recovery through a separate fixed component of a trade effluent customer's bill. As set out earlier, all trade effluent customers are required to have a trade effluent discharge authorisation. Specifically, Commercial Activities and Industrial Activities discharging trade effluent to the public sewer may require a Section 16 licence while larger scale Industrial Activities generally require a IE, IPC or Waste licence from the EPA.

Compliance costs include the costs of UÉ carrying out audits to determine a trade effluent customer's compliance with its licence or consent[60]. The frequency of audit site visit will depend on the results of the TERA tool assessment for each customer.

Licence management costs includes the costs incurred by UÉ in carrying out regular reviews of existing trade effluent licences. A review of a trade effluent licence is undertaken ensure it is up to date and remains fit for purpose. For example, Section 16 and Section 99 licences have wastewater Emission Limit Values (ELVs), wastewater volume, BOD/COD and SS, which impact on the available capacity at wastewater treatment plants receiving the discharge. Updating ELVs will support UÉ's asset planning and may increase available capacity.

UÉ intends sampling a representative cross section of Trade Effluent Category 1 customers across a geographical range of Commercial Activities and Industrial Activities and consumption values. UÉ proposes recovering the sampling costs allocated to Category 1 customers through the trade effluent compliance and licensing charge component. UÉ proposes recovering the sampling costs allocated to Trade Effluent Category 2 and 3 customers (see tables 7.6 and 7.8 in section 7) through the variable charge component as UÉ may change the frequency of the sampling programme for individual customers depending on the nature and characterisation of a trade effluent customer's wastewater discharge and the risk it poses to UÉ's wastewater assets. Section 8.2.3 provides further details on the recovery of these costs from Trade Effluent Category 2 and 3 customers.

The trade effluent compliance and licensing fixed charge varies by Trade Effluent Customer Category and does not cover any costs already accounted for by the NDTF standing (fixed)

[60] UÉ issues S16 licences to customers who fall below the threshold in the first Schedule of EPA Act 1992 as amended. i.e., customers who do not require an EPA Licence. UÉ issues a consent to the EPA which allows them licence customers who are within the threshold in the first schedule of the Act, to discharge to the UÉ sewer network. i.e., customers who do require an EPA licence.

charge. The compliance and licensing charge will replace the current monitoring or FOG charges which currently apply to some trade effluent customers.

### 8.2.3 Setting the variable volumetric and strength components

Trade effluent costs not recovered through the fixed standing and compliance and licensing charges must be recovered through variable components of the charge. In summary, the following costs will be allocated for recovery through the variable components of the charge:

a) Sampling costs will be recovered through the variable charge for Trade Effluent Category 2 and 3 customers (the Trade Effluent Category 1 customer allocation will be recovered through the compliance and licensing charge component (see section 8.2.2 above));
b) Wastewater collection costs; and
c) Wastewater treatment and disposal costs.

The cost of collecting, treating and disposing of trade effluent depends on the volume and strength of the wastewater discharged. Typically, utilities will have a single uniform rate for sanitary wastewater. This rate includes the costs associated with the volume of wastewater flow as well as sanitary wastewater values for pollutants (for example COD or BOD and SS).

Most utilities will have extra strength surcharge rates for larger trade effluent customers carrying out Industrial Activities and who are discharging wastewater with different concentrations of conventional pollutants (typically COD/BOD and SS) than sanitary wastewater. Additional strength related charge(s) or surcharges are often assessed to industrial trade effluent customers on the basis of how much they exceed the average wastewater strength level for these pollutants.

In the UK, charges for trade effluent discharges are based on the Mogden formula (see section 8.2.3.2) which attempts to represent the average costs of treating trade effluents in terms of important cost variables such as volume, BOD/COD (mg/l) and sludge treatment and disposal. Each company calculates the average costs for its region i.e., charges do not simply reflect the costs incurred at any one wastewater treatment plant. As the formula takes into account the level of treatment needed for the trade effluent, customers are charged less for wastewater that is cleaner, and so, easier to treat.

There are a number of options for setting the variable component of a Multi Part tariff effluent tariff and the preferred option for the Trade Effluent Charging Framework should depend on the volume and strength of the effluent discharged. Section 8.2.3.1 considers the approach to setting the variable component of the trade effluent tariff for Trade Effluent Category 1 customers and Section 8.2.3.2 considers setting the variable component for Trade Effluent Category 2 and 3 customers.

#### 8.2.3.1 Trade Effluent Category 1

UÉ estimates that 6,382 or c.92.9% of total trade effluent customers will be assigned to Trade Effluent Category 1. UÉ considers that in general the wastewater discharged by connections in this Trade Effluent Category, while legally a trade effluent discharge, is relatively insignificant in volume and/or strength and unlikely to unduly impact on the operation of UÉ's wastewater assets. UÉ does not think it is currently cost efficient to implement Mogden formula charging for Category 1 customers given the low risk profile of the discharge.

Some utilities implement assigned strengths for specific types of Commercial Activities and smaller Industrial Activities, determined based on some sampling or industry data, and they may calculate a volume rate that includes a higher level of pollutants than sanitary wastewater[61]. Some utilities use a single assigned strength for a group of Commercial Activities and/or small Industrial Activities while others will have several strength rates that vary based on the type of business activities and their associated assigned strengths of different pollutants.

UÉ does not have sufficient sampling and cost data available to make a determination on assigned strengths yet. If UÉ's national monitoring and sampling programme indicates that certain Commercial Activities and/or smaller Industrial Activities typically discharge wastewater with a higher concentration of pollutants than sanitary wastewater, UÉ may propose assigned strength tariff rates based on their measured loading as part of a future review of the Trade Effluent Charging Framework.

As these customers likely present a relatively low risk to our wastewater assets, from 1st October 2026 UÉ proposes applying the same uniform volumetric rate structure to Trade Effluent Category 1 customers as is applied to wastewater customers only discharging sanitary wastewater. UÉ's proposals may result in some Trade Effluent Category 1 customers currently applied a LA area Mogden formula moving to the uniform volumetric rate structure from 1st October 2026. See section 7 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper for more information on the tariff structure and rates that may apply.

**UÉ proposes**

**A uniform volumetric rate structure for Trade Effluent Category 1 which is set at the same levels as non-domestic sanitary wastewater.**

[61] Assigned strength values are a common feature in the USA. For example, see East Bay Municipal Utility District where non-residential customers are assigned typical waste strengths by business classification code for COD and SS (see here)

#### 8.2.3.2 Trade Effluent Category 2 and 3

UÉ estimates that 471 or c.6.9% of total trade effluent customers will be assigned to the Trade Effluent Category 2 customer class and 15 or c.0.2% to the Trade Effluent Category 3 customer class.

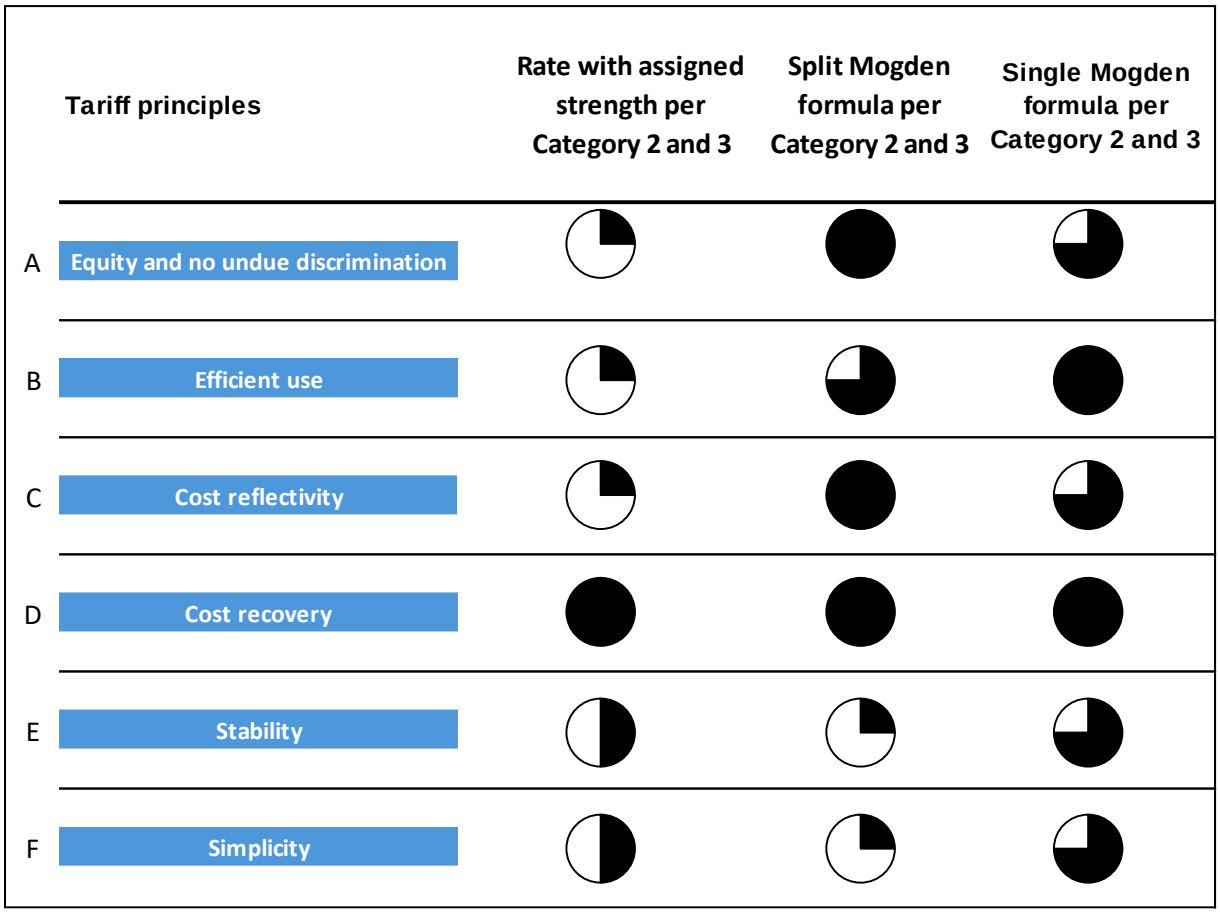
When setting the variable component of a Multi Part trade effluent tariff, there are a number of options that will take into account the more polluting wastewater typically discharged by Industrial Activities in the Trade Effluent Category 2 and 3 customer classes, including:

- A uniform rate including a single assigned strength rate for each Trade Effluent Category based on average strength (Kilograms of COD and SS) values[62] for Trade Effluent Category 2 and 3 customers as determined by UÉ's monitoring and sampling programme.
- Split Mogden formula incorporating availability (fixed) and variable (operating) charges for each Trade Effluent Category (2 and 3). The availability charge is a set of fixed charges based on the maximum volume, strength and solids content of a customer's trade effluent as specified in their trade effluent discharge authorisation. The operating charge is calculated based on the actual volume, strength and composition of the trade effluent that is discharged from the customer's property to the public sewer.
- Single Mogden formula incorporating variable operating charges only with a uniform rate for each component per Trade Effluent Category (2 and 3). The operating charge is calculated based on the actual volume, strength and composition of the trade effluent that is discharged from the customer's property to the public sewer.

Each of these options is evaluated below using the Harvey Ball approach to the CRU principles.

[62] A uniform rate including a single assigned strength rate per business type is common in the USA. For example, see East Bay Municipal District (link here) who assign COD and SS values per Business Classification.

## Figure 8.4 Variable options evaluation against principles




On ***'Equity and no undue discrimination'***, a 'split Mogden' charge is the best option as it ensures that Trade Effluent Category 2 and 3 customers pay charges which are proportionate to the costs that they impose on the network. In contrast, the 'assigned strength' option does not apply this proportionality. A 'single Mogden' applies more proportionality than the 'uniform rate per Trade Effluent Category' option but, by not taking account of maximum volume and strength content values, it does not match the 'split Mogden' charge.

On ***'Efficient use'***, the 'single Mogden' performs best as it increases the incentive for customers to assess their trade effluent impact and reduce it where possible. A 'split Mogden' formula does provide some incentive for efficient use but does not match the 'single Mogden' formula option as the availability charge will be based on the maximum volume and strength of settled COD/BOD and total SS, whether a customer actual discharges that amount or not. By focusing on the average assigned strength for a group of trade effluent customers rather than the actual strength of a customer's effluent discharge, the 'assigned strength' option does not provide the same level of incentive for efficient use provided by both Mogden options.

On ***'Cost reflectivity'***, the 'assigned strength' option does not perform strongly as it relies on average assigned strength rather than a strength charge based on an individual customer's measured loading. While a 'Single Mogden' is more cost reflective than the 'uniform' option, it does not allow for the full costs incurred by UÉ in making licensed capacity available in its wastewater sewers and treatment plants to remove, treat and dispose of an industrial customer's wastewater. A 'split Mogden' therefore performs best.

An appropriately designed variable tariff under all options will recover the required non-domestic revenue and hence all perform equally well on ***'Cost recovery'***.

On ***'Stability'***, the 'single Mogden' option performs best as it is the most common current arrangement where a strength component to the charge exists. The 'assigned strength' option is weaker as, although represented under current arrangements, they are less common. A 'split Mogden' would represent a significant change for customers and, therefore, performs weakest against this principle.

The 'single Mogden' option also rates highly on ***'Simplicity'*** as its easy for trade effluent customers carrying out Industrial Activities to understand given its prevalence under current arrangements. The 'assigned strength' option is less prevalent and, therefore, less familiar to customers. This option requires an advance administrative exercise to determine assigned strengths for each Trade Effluent Category using data gathered by UÉ's monitoring and sampling programme. A 'split Mogden' does not perform well on this principle as it is unfamiliar to trade effluent customers and, based on current data limitations, would be complex for UÉ to design and implement. Specifically, current trade effluent licence Emission Limit Values were inherited from the LAs and require review. UÉ intends undertaking a comprehensive licence review programme during the next revenue control period and a split Mogden formula, incorporating availability charges, could be reconsidered for subsequent reviews of the Trade Effluent Charging Framework.

**UÉ proposes**

**A single Mogden formula incorporating variable operating charges only with a uniform rate for each component per Trade Effluent Category (2 and 3).**

- **UÉ's proposed Mogden formula and the proportional split between each charging component for each Trade Effluent Category (2 and 3)**

UÉ proposes setting the following Mogden formula for Trade Effluent Category 2 and 3 customers with the charge per cubic metre of wastewater discharged calculated based on the following components:

$$\text{Unit Charge} = R + V + \left(\frac{Ot}{Os} \times B\right) + \left(\frac{St}{Ss} \times S\right)$$

Where:

**Table 8.5 Proposed Mogden formula components**

| Component | Description | Unit |
|---|---|---|
| R | A fixed charge per cubic metre for reception and conveyance costs | $m^3$ |
| V | A fixed charge per cubic metre for volumetric and primary or preliminary treatment costs | $m^3$ |
| Ot | The Chemical Oxygen Demand (COD) of the customer's settled trade effluent | mg/l |
| Os | The average national figure for COD of settled wastewater as determined by UÉ across all its wastewater treatment plants[63] | mg/l |
| B | The biological oxidation cost per cubic metre of settled wastewater of average strength | $m^3$ |
| St | The total suspended solids content of the customer's trade effluent | mg/l |
| Ss | The average national figure for SS of wastewater as determined by UÉ across all its wastewater treatment plants[64] | mg/l |
| S | The charge per cubic metre for treatment and disposal of primary sludge from a wastewater treatment plant | $m^3$ |

There are other pollutants, for example nutrients such as ammonia and phosphorus, which are costly for UÉ's wastewater assets to treat and dispose. However, UÉ does yet have sufficient cost and sampling data to warrant their inclusion as individual parameters within the Mogden formula. UÉ will review the appropriateness of including additional parameters

[63] Average COD value (482mg/l) measured by UÉ across all its wastewater treatment plants over a three year period from 2020 to 2022.
[64] Average SS value (252 mg/l) measured by UÉ across all its wastewater treatment plants over a three year period from 2020 to 2022.

within the Mogden formula as part of future reviews of the Trade Effluent Charging Framework. This approach is consistent with the findings of a 2012 UK study[65] which found that:

i. the current UK Mogden formula[66] remains fit for purpose as a method of cost recovery, and
ii. other parameters such as ammonia and phosphorus should be kept under review by UK Water and Sewerage Companies (WaSCs) for future inclusion as individual charges within the Mogden formula.

- **Setting the Mogden formula components**

To set the values of R, V, B and S, UÉ relies on the outcome of the cost allocation analysis described in section 6 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper and summarised in section 7 of this paper.

UÉ's cost data allows for wastewater costs to be readily split between collection costs (reflecting the costs of reception and conveyance of wastewater) and treatment costs.

Based on UÉ's analysis, treatment costs can be further categorised as costs relating to volumetric or primary treatment (which does not depend on the strength of the wastewater being discharged) and all costs relating to both secondary treatment or disposal costs (which do depend on the strength of the wastewater being discharged). However, UÉ cannot currently differentiate treatment costs between secondary treatment and disposal costs.

UÉ's cost data can be split between wastewater collection costs and wastewater treatment and disposal costs. The R component of the Mogden formula is designed to recover collection costs. The R component of the Mogden formula is calculated using the wastewater collection costs allocated to Trade Effluent Category 2 and 3 customers. The R component is different for Trade Category 2 and 3 customers. As outlined in section 6.1.5 of UÉ's Non-Domestic Tariff Design Proposals paper and section 7 of this paper, UÉ proposes applying a network location adjustment to trade effluent customers discharging more than 250,000$m^3$ per annum. There is a differential between the costs allocated to the two groups on this basis.

UÉ can further split its treatment and disposal costs between wastewater treatment costs associated with primary or volumetric treatment and the remaining treatment and disposal costs associated with the strength of the wastewater.

[65] A review of the effectiveness of Mogden formula charging when meeting modern sewage treatment works consents, Report Ref. No. 12/WW/23/8, UK Water Industry Research, 2012.
[66] The Mogden formula as currently applied by most UK WASCs provides for the recovery of wastewater treatment costs related to volume and COD and SS strength parameters only.

The V component of the Mogden formula is designed to recover volumetric or primary treatment costs which are unaffected by the level of BOD/COD (mg/l) or SS (mg/l) in the wastewater. The V component of the Mogden formula is calculated using the treatment costs associated with primary or volumetric treatment allocated to Trade Effluent Category 2 and 3 customers. There is no difference in the V component calculated for Trade Effluent Category 2 and 3 customers.

The B and S components of the Mogden formula are designed to recover the remaining wastewater treatment costs which are unrelated to volumetric treatment. The B component of the Mogden formula is designed to recover secondary treatment costs which are affected by the level of BOD/COD (mg/l) in the wastewater. The S component of the Mogden formula is designed to recover disposal costs, which are affected by the level of SS (mg/l) in the wastewater. However, UÉ's treatment cost data cannot currently disaggregate secondary treatment costs from disposal costs as our cost accounting systems don't yet accommodate this level of cost granularity.

UÉ therefore proposes to set the B and S components of the Mogden formula based on the ratio of B and S components (54% to 46%) in the Dun Laoghaire Rathdown (DLR) Mogden formula which was set in 2013. The DLR Mogden formula is the most recent Mogden formula calculated by the LAs prior to the establishment of UÉ. It reflects treatment costs associated with a relatively new wastewater treatment plant (Shanganagh wastewater treatment plant). Using this ratio UÉ splits the allocation for wastewater treatment costs which are unrelated to volumetric treatment. Of these costs, c. 80% is assigned to the B component and c. 20% is assigned to the S component. The calculation ensures that the ratio between the B and S components in the resulting Mogden formula is equivalent to the ratio of B and S components (54% to 46%) in the Dun Laoghaire Rathdown (DLR) Mogden formula.

Table 8.6 provides a total breakdown of the costs allocated to Trade Effluent Category 2 and 3 customers which will be recovered by way of a Mogden formula and provides the output of the DLR ratio approach. There is no difference in the V, B or S components calculated for Trade Effluent Category 2 and 3 customers.

**Table 8.6 Proportion of costs allocated to Trade Category 2 and 3 customers by Mogden formula component**

| Proportion to be recovered by each Mogden formula component | R | V | B | S |
|---|---|---|---|---|
| Proportion of cost to be recovered by each component of the Mogden Formula (before assumed B and S split) based on UÉ allocation | 22% | 34% | 44% | |
| Proportion of cost to be recovered by each component of the Mogden Formula (B and S split based on DLR split) | 22% | 34% | 35% | 9% |

- **Mogden formula for industrial customers with outfall arrangements only**

A very small number of trade effluent customers discharge directly to an outfall. Usually this is a sea outfall whereby the wastewater is discharged directly to the sea without being treated at a UÉ wastewater treatment plant.

On this basis charges shall be payable by Trade Effluent Category 2 and 3 customers on the R element of the Mogden formula only (i.e., reception and conveyance charges only apply) in instances where a discharge bypasses UÉ's treatment plant as agreed by UÉ and the EPA. UÉ does not incur any treatment costs for the effluent discharged and the only costs incurred relate to the reception and conveyance of the effluent through the public sewers. These costs will be recovered by applying the R charge within the Mogden formula.

Appendix 1 sets out indicative uniform rates for each Mogden formula component for Trade Effluent Category 2 and 3.

### 8.2.4 Proportional split between standing and volumetric charge for each customer class

Table 8.7 sets out the split between standing and volumetric charge components for trade effluent customers. These tables result from the application of the approach set out in section 7.

### Table 8.7 Proportional split between fixed and variable charges – Trade Effluent

| Trade Effluent - % revenues recovered from metered charges | | | |
|---|---|---|---|
| Customer Class | Standing Charge | Compliance & Licensing Charge | Variable Charge |
| **Trade effluent Overall** | 3.2% | 4.9% | 91.9% |
| Category 1 tariff customers | 5.5% | 11.7% | 82.8% |
| Category 2 tariff customers | 3.0% | 5.3% | 91.7% |
| Category 3 tariff customers | 2.0% | 0.4% | 97.6% |

**Summary of UÉ's proposals on Tariff Structure:**

- **UÉ proposes charging for trade effluent on a connection basis.**

- **UÉ proposes Multi Part tariffs for trade effluent, comprised of fixed (standing charge and trade effluent specific compliance and licensing costs) and variable (volumetric and strength) elements.**

**For Trade Effluent Category 1 customers, UÉ proposes the following:**

- **the NDTF tariff structure (i.e., wastewater standing and volumetric charges) will apply to metered trade effluent customers;**
- **the NDTF unmetered charge will apply to all unmetered trade effluent customers; and**
- **A separate trade effluent fixed compliance and licensing charge will also apply.**

**For Trade Effluent Category 2 and 3 customers, UÉ proposes applying:**

- **NDTF standing charges;**
- **a separate trade effluent fixed compliance and licensing charge which varies by Trade Effluent Category;**
- **a single Mogden formula incorporating variable operating charges only with a uniform rate for each component applied to each trade effluent customer class (Trade Effluent Category 2 and 3);**
- **The Mogden formula components for each (Trade Effluent Category 2 and 3) customer class is set on the basis of the results of the cost allocation analysis;**
- **The DA will be 213m$^3$ p.a. (for wastewater) for mixed use trade effluent premises with 1 to 4 occupants; and**
- **Mixed use trade effluent premises with occupancy greater than 4 will receive an extra 25m$^3$ (for wastewater) per additional occupant.**

# 9. Trade Effluent Transitional Arrangements

Given the wide range of existing tariffs, structures and rules for trade effluent charges; moving to UÉ's proposed tariff design will result in tariff changes (a decrease or an increase) for most customers. It will be important to consider if any transitional arrangements should be put in place to ensure that any impact is mitigated and that customer bill changes are implemented smoothly in an equitable manner.

Sections 5 to 8 set out a number of key proposals for the enduring Trade Effluent Charging Framework. Implementing these proposals requires the following two key changes from the existing charging arrangements:

- ***Revenue Rebalancing*** reflects the move from the existing level of trade effluent charges, which recover approximately 1.54% of allowed revenues, to a more cost reflective level of charges, set to recover approximately 4.92%[67] of allowed revenue; and
- ***Tariff Harmonisation*** reflects the move from the current situation where trade effluent charges are set inconsistently for different parts of the country (i.e., volume and strength based tariffs for 18 LA areas and volume only i.e. no strength based tariffs for 13 of the 31 LA areas) to a single suite of tariffs set nationally, with 3 customer classes.

The trade effluent rates (and resulting estimated customer bill impact analysis) published in this submission document are indicative. These rates will change following the outcome of the CRU's consultation on UÉ's proposed tariff design and changes to the input data to reflect updated values for UÉ's allowed revenue for the calendar year 2025, connection numbers, volumes and PE.

UÉ is cognisant that the proposed design will result in tariff changes for customers and will review and consider if appropriate transition arrangements should be proposed. This (first) consultation considers an appropriate grace period until Trade Effluent Charging Framework implementation go-live so that trade effluent customers can plan for changes in their bills; UÉ's proposals are set out in section 9.1.

A second consultation in 2024 will consider how these arrangements would work for trade effluent customers and how they would align with transitional arrangements agreed as part of the NDTF. Sections 9.2 to 9.6 sets out the key transition aspects that UÉ expects to cover in its 2024 proposals.

[67] The 4.92% allocation includes an 1.5% allocation currently recovered from wastewater customers. Approx. 6,600 customers (accounting for c.1.5% of current revenues) are currently assigned to wastewater Tariff Bands and contribute to wastewater revenue recovery. These customers will be reclassified to Trade Effluent Categories and recovery of their cost allocation will be recognised as trade effluent revenue under UÉ's proposals.

In assessing the need for transitional arrangements, a continuing high priority for UÉ will be ensuring that non-domestic customers, including trade effluent customers, are not subject to unacceptably high single year bill increases. To assist in achieving this outcome, UÉ will prioritise stability as part of the second consultation in 2024 which will set all (non-domestic and trade effluent) tariffs using the costs set out in the CRU's decision on the allowed revenue for the calendar year 2025. This second consultation will consider if transitional arrangements are necessary, how these arrangements would work for trade effluent customers and how they would align with transitional arrangements agreed as part of the NDTF. This will help to ensure that trade effluent customers are not subject to unacceptably high single year bill increases when the enduring Trade Effluent Charging Framework comes into effect.

## 9.1 Grace Period

UÉ proposes a 'grace period' of 18 months[68] prior to implementation go-live of the Trade Effluent Charging Framework, so that customers can plan for changes in their bills. The 'grace period' will allow trade effluent customers to work with UÉ to understand how their trade effluent discharge can be modified to mitigate changes in their bills.

An 18 month 'grace period' will facilitate effective implementation planning which will be critically important to the successful adoption of the new Trade Effluent Charging Framework. In proposing an 18 month 'grace period', UÉ has considered both trade effluent customers' need to prepare for the change and UÉ's business and system change requirements to ensure a successful implementation go-live.

The CRU's 2019 Framework decision provided for a 10 month 'grace period'[69]. Implementing the Trade Effluent Charging Framework involves a complex system and process change and will require significant engagement with trade effluent customers, including the undertaking of a trade effluent licence review programme to ensure licences remain fit for purpose. Given the scale of the changes and the additional operational complexity associated with implementing the Trade Effluent Charging Framework, UÉ believes that additional time is warranted.

It is important to align the tariff year for the NDTF and the Trade Effluent Charging Framework. The tariff year runs from 1st October to 30th September of the next calendar year. UÉ considers

[68] 18 months relates to the period of time between the CRU's decision on the second consultation (expected in Q1 2025) and proposed implementation go-live (1st October 2026).

[69] 10 months related to the period of time between the CRU's NDTF decision (July 2019) and the originally intended implementation go-live date (1st May 2020).

that a 6 month 'grace period'[70] would not allow sufficient time for customers to prepare for the change or for UÉ to successfully adopt the framework.

In advance of the implementation of the Trade Effluent Charging Framework, UÉ will engage with trade effluent customers to help them understand the impact of UÉ's tariff design and transitional arrangements proposals on bills. UÉ will highlight the importance of trade effluent management or reduction measures and how certain operational changes employed by customers could mitigate aspects of the new trade effluent charge. UÉ will also provide support for such customers wishing to develop onsite treatment to manage their trade effluent charges. A c.18 month 'grace period' should allow sufficient time for trade effluent customers to make adjustments to those business practices or to develop on-site treatment capabilities (taking into account that planning permission may be required in certain cases).

It is also essential that prior to implementation, UÉ has established a trade effluent sampling process that is robust, repeatable and consistent for all customers nationwide. The current variability in the provision (in terms of providers, frequency and methodologies) of trade effluent sampling does not allow for this. The timeframe for transition to a fully UÉ managed trade effluent sampling programme for all trade effluent customers, at the frequency required to support the Trade Effluent Charging Framework, is Q1 2025. UÉ considers that a minimum of 12 months sampling data must then be available before accurate trade effluent charges can be determined. Twelve months of samples will be averaged to determine the final COD and SS values for inclusion in the Mogden formula for each Trade Effluent Category 2 and 3 customer.

UÉ accepts that in the short-term there is a trade-off to implementing the Trade Effluent Charging Framework from 1st October 2026 rather than 1st October 2025. The cost recovery principle is somewhat compromised due to the longer implementation path. Similarly, equity also suffers as government subvention remains higher in the short term than if implementation occurred on 1st October 2025.

However, UÉ believes that implementing the change on 1st October 2026 will result in greater stability as trade effluent customers will have more time to plan and prepare. Over the long term the additional grace period will also result in a greater efficiency in the use of wastewater services as it allows customer to proactively adopt their process to mitigate the impact on their bills. The longer period also supports simplicity as it allows UÉ to engage more

[70] 6 months relates to the period of time between the CRU's decision on the second consultation (expected in Q1 2025) and commencement of the next tariff year (i.e. ,1st October 2025).

proactively, and in more detail, ensuring customers have a greater understanding of the upcoming changes.

**UÉ proposes**

**A grace period of c.18months to conclude no later than the 1st October 2026 to allow Trade Effluent Customers plan for the tariff changes and to enable UÉ to make the necessary process and system changes.**

## 9.2 Commencement of the tariff transition

Subject to the CRU's decision on the tariff design and structure and the corresponding enduring trade effluent tariff rates expected in Q1 2025, new trade effluent tariff arrangements and rates will apply for all trade effluent customers from the commencement of the Trade Effluent Charging Framework. UÉ proposes to commence transitioning qualifying trade effluent customers towards enduring tariffs on 1st October 2026. This will provide non-domestic customers facing bill increases with approximately 18 months' notice of the tariff change[71].

The second consultation in 2024 will consider which trade effluent customers should qualify for a transition to enduring tariffs, the proposed transition approach, and how this aligns with transitional arrangements agreed as part of the NDTF. The remainder of this section identifies the key criteria UÉ will consider when proposing transition arrangements for trade effluent customers.

## 9.3 Time period for transition

The second consultation will consider what the default transition period (if any) should be (i.e., for trade effluent customers who qualify for transition in moving from their current tariff rates to enduring rates).

## 9.4 Need for a cap on the maximum annual increase

The CRU's 2019 Framework decision allowed for a 10% annual bill increase cap to be applied automatically to a non-domestic connection's bill where that connection was facing an expected annual bill increase of €750 or more (based on their previous year's consumption.

[71] The eighteen months relates to the period between the publication of the CRU's final decision on the Trade Effluent Charging Framework, i.e., tariff design and transitional arrangements, and the proposed date that new trade effluent tariff rates will apply for all trade effluent customers.

The 10% annual bill increase cap is applied automatically to a connection's bill for each year of the transition but an opt-out is available.

As set out in section 8 of the Non-Domestic Tariff Design Review and Alignment proposals paper, UÉ has also considered the need for non-domestic transitional arrangements for the tariff year commencing 1st October 2024. UÉ proposes applying a 15% cap (if required) on the maximum increase allowed in the 2024/2025 tariff year to non-domestic customers who face an expected annual bill increase of €250 or more based on their previous year's consumption.

The second consultation in 2024 will consider if a cap on the maximum annual increase should also be applied to trade effluent customers during the transition to enduring tariff rates and what that cap should be.

## 9.5 Calculation of transition tariffs

The 2019 Framework consultation considered two main options for calculating the tariffs that apply during each year of transition:

- Calculation Option 1 – equal percentage increases for all customers, or
- Calculation Option 2 – individual percentage or monetary increases.

UÉ proposed, and the CRU's 2019 Framework decision approved, option 2 setting annual transition tariffs by calculating an individual monetary increase for each qualifying customer.

The second consultation in 2024 will consider whether these or other options for calculating the trade effluent tariffs during each year of transition should apply.

## 9.6 Review of enduring tariff levels

Trade effluent tariffs levels will likely be set for each year to reflect HICP[72] inflation, connection growth projections and any changes in UÉ's allowed revenues. Taking into account the need for any transition to be reasonably stable, the second consultation must consider whether enduring tariffs should be subject to adjustment during the agreed transition period and under what circumstances.

[72] In the euro area, consumer price inflation is measured by the Harmonised Index of Consumer Prices

# 10. Summary Customer Impact

The Executive Summary summarises the key aspects of UÉ's proposals. The purpose of this section is to help UÉ's trade effluent customers to understand the changes as a result of the introduction of the Trade Effluent Charging Framework.

## 10.1 When will tariffs change?

Current water supply and wastewater collection tariffs, including trade effluent tariffs are set out in section 3 of the WCP. In accordance with section 3.1.1 of the WCP, UÉ will maintain trade effluent tariffs in accordance with the structures and arrangements in place in each LA area prior to 1st January 2014 until a new UÉ Trade Effluent Charging Framework is approved by the CRU. UÉ proposes implementing the Trade Effluent Charging Framework from 1st October 2026 following an 18 month 'grace period' from the CRU decision.

This means that trade effluent customers in 18 LA areas, which already have strength components included in their existing trade effluent charge, will continue to be charged via those existing individual arrangements, specific volumetric rates, fixed trade effluent charges or 'LA area Mogden formulas' until the new Trade Effluent Charging Framework is implemented (proposed by UÉ as 1st October 2026). Trade effluent customers in the remaining 13 LA areas will continue to be charged on the basis of the applicable NDTF tariffs until then.

Appendix 1 sets out indicative tariffs which are subject to change and, therefore, are not final. They are included to allow trade effluent customers understand the likely impact of UÉ's trade effluent tariff design proposals on tariff levels. The purpose of the second consultation in 2024 will be to set trade effluent tariffs based on the CRU's tariff design decisions, the new the allowed revenue for the calendar year 2025and updated (2022) cost drivers. The CRU is expected to publish its decision setting trade effluent tariffs in Q1 2025 and UÉ proposes they should apply from 1st October 2026 following an 18 month 'grace period'.

UÉ recognises that the introduction of a new Trade Effluent Charging Framework will result in the need to consider a number of tariff applications rules. For example, rules with respect to moving between tariff classes. The CRU will establish the trade effluent tariff design and structure as part of the first consultation. The second consultation will therefore consider if tariff application rules are necessary, how these arrangements would work for trade effluent customers, and how they would align with the tariff application rules already agreed as part of the NDTF.

## 10.2 Summary of customer's indicative bills

Sections 5 to 8 set out a number of key proposals for the enduring Trade Effluent Charging Framework. Given the wide range of existing tariffs, structures and rules for trade effluent charges; moving to UÉ's proposed tariff design is likely to result in tariff changes for most customers. The impact on trade effluent customers will vary individually and depend on the strength and volume of wastewater discharged. This section highlights indicative trade effluent bills based on notional trade effluent strength and volume for a range of different trade effluent customers. This section does not consider the bill impacts from moving from current tariffs to the new tariff framework. UÉ has not yet considered transitional arrangement but rather provides a flavour of the different bills a sample of different types of customers might expect.

**Table 10.1 List of indicative trade effluent billing scenarios**

| Scenario | Trade Effluent Category [73] | Activity | Trade Effluent discharge ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge[74] |
|---|---|---|---|---|---|
| **1** | Category 1 | Commercial (Restaurant) | 800 | N/A[75] | Volumetric |
| **2** | Category 1 | Commercial (Swimming pool) | 2,050 | N/A | Volumetric |
| **3** | Category 1 | Industrial (Microbrewery) | 400 | N/A | Volumetric |
| **4** | Category 2 | Industrial (Food Processing) | 5,000 | COD=3000 SS=800 | Mogden |
| **5** | Category 2 | Industrial (Biopharma) | 7,000 | COD=800 SS=100 | Mogden |
| **6** | Category 3 | Industrial (Manufacturing) | 300,000 | COD=100 SS=25 | Mogden |
| **7** | Category 3 | Industrial (Dairy Processing) | 1,100,000 | COD= 800 SS=200 | Mogden |

The table above identifies seven example scenarios, which are further explored in this section with a view to providing an indication of customer bill impacts. Each scenario demonstrates the indicative impact of a trade effluent customer moving directly onto enduring trade

[73] See Section 6.4 in relation to trade effluent customer categorisation.
[74] The table distinguishes whether a trade effluent customer's variable component of the charge is proposed as a volumetric charge (Trade Effluent Category 1) or Mogden formula charge (Trade Effluent Category 2 and 3).
[75] UÉ does propose sampling a representative cross section of Trade Effluent Category 1 customers across a geographical range of Commercial Activities and Industrial Activities and consumption values, in order to better understand the profile of wastewater strength discharged.

effluent tariffs from proposed implementation go-live on 1st October 2026. The scenarios do not reflect any transitional arrangements which UÉ may propose as part of the second consultation in 2024. All seven billing scenarios included in this section are indicative only and will **not apply to customers**. As part of the second consultation UÉ will convert each scenario to a full case study demonstrating the impact of moving from current to proposed trade effluent tariffs including any proposed transitional arrangements.

The business activities and wastewater usage values have been chosen to represent a broad range of trade effluent customer types. An indication of the customer or business type for a given level of usage is provided for each scenario. This information is taken from UÉ's billing system.

The formulae below outline how UÉ proposes a trade effluent bill will be calculated. The wastewater components of a bill are calculated separately and are summed together for the total trade effluent charge. Billable usage refers to total wastewater usage net of any domestic allowance. To review case studies demonstrating water supply bill component impacts, see section 9 of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

$$\textbf{Trade Effluent Category 1 Bill} = Standing\ Charge + (Volumetric\ unit\ rate\ x\ billable\ usage) + trade\ effluent\ compliance\ and\ licensing\ fixed\ charge$$

$$\textbf{Trade Effluent Category 2 and 3 Bill} = Standing\ Charge + Mogden\ formula\ charge + trade\ effluent\ compliance\ and\ licensing\ fixed\ charge$$

Notes:

- All standing, volumetric, Mogden formula components and trade effluent compliance and licensing fixed charges are rounded to the nearest two decimal places.
- The total annual trade effluent charge for each scenario has been rounded to the nearest euro.
- In scenarios where a Mogden formula applies, it is populated with the national average wastewater strengths values: the Os parameter value of 482mg/l and the Ss parameter value of 252mg/l apply.

### Scenario 1 - Commercial (Restaurant)

| Scenario | Trade Effluent category | Activity | Trade effluent discharged (m3) | Trade Effluent samples (Strength) | Basis of variable charge: |
|---|---|---|---|---|---|
| **1** | Category 1 | Commercial (Restaurant) | 800 | N/A | Volumetric |

This scenario outlines the how the indicative trade effluent tariffs would apply to a restaurant with a trade effluent discharge of 800m$^3$ per annum connected to the **wastewater** network. For Trade Effluent Category 1 customers, UÉ proposes to charge a trade effluent compliance and licensing fixed charge, a standing charge and a uniform volumetric rate structure. The standing charge and volumetric charge that applies are differentiated by customer class consistent with the approach taken for sanitary wastewater discharged by non-domestic customers. As the customers annual consumption is below 1,000m$^3$, they will be charged the NDTF Band 1 wastewater standing charge and volumetric rate for their discharge volumes.

Table 10.2 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

Table 10.2 Scenario 1: Worked example of trade effluent bill calculation

| | Indicative Annual Bill[76] |
|---|---|
| **Trade effluent tariff components** | |
| Standing Charge Wastewater (A) | €75.45 |
| Compliance & Licensing charge (B) | €331.10 |
| Volumetric Charge Wastewater/m$^3$ | €2.35 |
| (Billable trade effluent volume m$^3$) | 800 |
| Volumetric Charge (C) | €2.35x 800 = €1,880 |
| **Total annual trade effluent charge (A+B+C)** | €2,287 |

[76] The wastewater standing and volumetric charges are based on UÉ's NDTF proposals for the 2024/2025 tariff year.

### Scenario 2 - Commercial (Swimming pool)

| Scenario | Trade Effluent Category | Activity | Trade Effluent discharged ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge |
|---|---|---|---|---|---|
| **2** | Category 1 | Commercial (Swimming pool) | 2,050 | N/A | Volumetric |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a swimming pool connected to the **wastewater** network and who has a trade effluent discharge of 2,050$m^3$ per annum. For Trade Effluent Category 1 customers, UÉ proposes to charge the proposed trade effluent compliance and licensing fixed charge and the proposed standing charge and uniform volumetric rate structure differentiated by customer class consistent with the approach taken for sanitary wastewater discharged by non-domestic customers. As the customers annual consumption is between 1,000$m^3$ and 19,999$m^3$, they will be charged the NDTF Band 2 wastewater standing charge and volumetric rate for their discharge volumes.

Table 10.3 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

**Table 10.3 Worked example of trade effluent bill calculation**

| | Indicative Annual Bill[77] |
|---|---|
| **Trade effluent tariff components** | |
| Standing Charge Wastewater (A) | €234.85 |
| Compliance & Licensing charge (B) | €331.10 |
| Volumetric Charge Wastewater/$m^3$ | €2.30 |
| (Billable trade effluent volume $m^3$) | 2,050 |
| Volumetric Charge (C) | €2.30 x 2,050 = €4,715 |
| **Total annual trade effluent charge (A+B+C)** | €5,281 |

[77] The wastewater standing and volumetric charges are based on UÉ's NDTF proposals for the 2024/2025 tariff year.

### Scenario 3 – Industrial (Microbrewery)

| Scenario | Trade Effluent Category | Activity | Trade Effluent discharged ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge |
|---|---|---|---|---|---|
| **3** | Category 1 | Industrial (Microbrewery) | 400 | N/A | Volumetric |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a microbrewery connected to the **wastewater** network and who has a trade effluent discharge of 400$m^3$ per annum. For Trade Effluent Category 1 customers, UÉ proposes to charge the proposed trade effluent compliance and licensing fixed charge and the proposed standing charge and uniform volumetric rate structure differentiated by customer class consistent with the approach taken for sanitary wastewater discharged by non-domestic customers. As the customers annual consumption is below 1,000$m^3$, they will be charged the NDTF Band 1 wastewater standing charge and volumetric rate for their discharge volumes.

Table 10.4 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

**Table 10.4 Worked example of trade effluent bill calculation**

| | Indicative Annual Bill[78] |
|---|---|
| **Trade effluent tariff components** | |
| Standing Charge Wastewater (A) | €75.45 |
| Compliance & Licensing charge (B) | €331.10 |
| Volumetric Charge Wastewater/$m^3$ | €2.35 |
| (Billable trade effluent volume $m^3$) | 400 |
| Volumetric Charge (C) | €2.35 x 400 = €940 |
| **Total annual trade effluent charge** | €1,347 |

[78] The wastewater standing and volumetric charges are based on UÉ's NDTF proposals for the 2024/2025 tariff year.

## Scenario 4 – Industrial (Food Processing)

| Scenario | Trade Effluent category | Activity | Trade effluent discharged (m3) | Trade Effluent samples (Strength) | Basis of variable charge: |
|---|---|---|---|---|---|
| **4** | Category 2 | Industrial (Food Processing) | 5,000 | COD=3000<br>SS=800 | Mogden formula |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a Food Processing Industrial Activity connected to the **wastewater** network and who has a trade effluent discharge of 5,000m$^3$ per annum. For Trade Effluent Category 2 customers, UÉ proposes applying the Mogden formula charge and the trade effluent compliance and licensing fixed charge. As the customers annual consumption is between 1,000m$^3$ and 20,000m$^3$, they will be charged the NDTF Band 2 wastewater standing charge.

Table 10.5 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

**Table 10.5 Worked example of trade effluent bill calculation**

| | | Indicative Annual Bill[79] |
|---|---|---|
| **Trade effluent tariff components** | | |
| Standing Charge Wastewater | A | €234.85 |
| Compliance & Licensing charge | B | €2,763.21 |
| R (Reception and Conveyance charge (per unit)) | | €0.58 |
| V (Volume charge (per unit)) | | €0.85 |
| B (Biological charge (per unit)) | | €0.45 |
| S (Sludge charge (per unit)) | | €0.38 |
| Ot (Customer COD (mg/l)) | | **3,000** |
| St (Customer SS (mg/l)) | | **800** |
| C= R + V + B(Ot/Os) + S(St/Ss) | | |
| C is the resultant trade effluent charge in € /m$^3$: | C | €5.44 |
| Billable trade effluent volume (m$^3$) | D | 5,000 |
| Mogden Charge € (C) | E | (C x D) = €27,200 |
| **Total trade effluent charge €** | | (A+B+E) = €30,198 |

[79] The wastewater standing charge is based on UÉ's NDTF proposals for the 2024/2025 tariff year.

## Scenario 5 – Industrial (Biopharma)

| Scenario | Trade Effluent Category | Activity | Trade Effluent discharged ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge |
|---|---|---|---|---|---|
| **5** | Category 2 | Industrial (Biopharma) | 70,000 | COD=800<br>SS=100 | Mogden |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a Biopharma Industrial Activity connected to the **wastewater** network and who has recorded trade effluent discharge of 70,000$m^3$ per annum. For Trade Effluent Category 2 customers, UÉ proposes to charge the Mogden formula charge and the trade effluent compliance and licensing fixed charge. As the trade effluent discharge is between 20,000$m^3$ and 250,000$m^3$, they will be charged the NDTF Band 3 wastewater standing charge.

Table 10.6 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

**Table 10.6 Worked example of trade effluent bill calculation**

| | | Indicative 2024/25 Tariffs |
|---|---|---|
| **Trade effluent tariff components** | | |
| Standing Charge Wastewater | A | €3,897.02 |
| Compliance & Licensing charge | B | €2,763.21 |
| R (Reception and Conveyance charge (per unit)) | | €0.58 |
| V (Volume charge (per unit)) | | €0.85 |
| B (Biological charge (per unit)) | | €0.45 |
| S (Sludge charge (per unit)) | | €0.38 |
| Ot (Customer COD (mg/l)) | | **800** |
| St (Customer SS (mg/l)) | | **100** |
| C= R + V + B(Ot/Os) + S(St/Ss) | | |
| C is the resultant trade effluent charge in € /$m^3$: | C | €2.33 |
| Billable trade effluent volume ($m^3$) | D | 70,000 |
| Mogden Charge € | E | (C x D) = €163,100 |
| **Total Trade Effluent Charge €** | | (A+B+E) = €169,760 |

## Scenario 6 – Industrial (Manufacturing)

| Scenario | Trade Effluent Category | Activity | Trade Effluent discharged ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge |
|---|---|---|---|---|---|
| **6** | Category 3 | Industrial (Manufacturing) | 300,000 | COD=100 SS=25 | Mogden |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a manufacturing Industrial Activity connected to the **wastewater** network and who has recorded trade effluent discharge of 300,000$m^3$ per annum. UÉ proposes to charge the trade effluent compliance and licensing fixed charge and the Mogden formula charge. As the trade effluent discharge is above 250,000$m^3$, they will be charged the NDTF Band 4 standing charge.

Table 10.7 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

### Table 10.7 Worked example of trade effluent bill calculation

| | | Indicative 2024/25 Tariffs |
|---|---|---|
| **Trade effluent tariff components** | | |
| Standing Charge Wastewater | A | €37,929.49 |
| Compliance & Licensing charge | B | €7,491.37 |
| R (Reception and Conveyance charge (per unit)) | | €0.48 |
| V (Volume charge (per unit)) | | €0.85 |
| B (Biological charge (per unit)) | | €0.45 |
| S (Sludge charge (per unit)) | | €0.38 |
| Ot (Customer COD (mg/l)) | | **100** |
| St (Customer SS (mg/l)) | | **25** |
| C= R + V + B(Ot/Os) + S(St/Ss) | | |
| C is the resultant trade effluent charge in € /m3: | C | €1.46 |
| Billable trade effluent volume ($m^3$) | D | 300,000 |
| Mogden Charge € | E | (C x D) = €438,000 |
| **Total TE charge €** | | (A+B+E)= €483,421 |

## Scenario 7 – Industrial (Diary Processing)

| Scenario | Trade Effluent Category | Activity | Trade Effluent discharged ($m^3$) | Trade Effluent samples (Strength) | Basis of variable charge |
|---|---|---|---|---|---|
| **7** | Category 3 | Industrial (Dairy Processing) | 1,100,000 | COD= 800<br>SS=200 | Mogden |

This scenario outlines the indicative impact of enduring trade effluent tariffs on a Dairy processing Industrial Activity connected to the **wastewater** network and who has a trade effluent discharge of 1,100,000$m^3$ per annum. UÉ proposes to charge the Mogden formula charge and the trade effluent compliance and licensing fixed charge. As the trade effluent discharge is above 250,000$m^3$, they will be charged the NDTF Band 4 standing charge.

Table 10.8 shows the indicative annual bill if this trade effluent customer immediately moves to the trade effluent enduring tariffs following the commencement of the Trade Effluent Charging Framework.

### Table 10.8 Worked example of trade effluent bill calculation

| | | Indicative 2024/25 Tariffs |
|---|---|---|
| **Trade effluent tariff components** | | |
| Standing Charge Wastewater | A | €37,929.49 |
| Compliance & Licensing charge | B | €7,491.37 |
| R (Reception and Conveyance charge (per unit))<br>V (Volume charge (per unit))<br>B (Biological charge (per unit))<br>S (Sludge charge (per unit))<br>Ot (Customer COD (mg/l))<br>St (Customer SS (mg/l)) | | €0.48<br>€0.85<br>€0.45<br>€0.38<br>**800**<br>**200** |
| C= R + V + B(Ot/Os) + S(St/Ss) | | |
| C is the resultant trade effluent charge in € /$m^3$: | C | €2.38 |
| Billable trade effluent volume ($m^3$) | D | 1,100,000 |
| Mogden Charge | E | (C x D) = €2,618,000 |
| **Total TE charge €** | | **(A+B+E) = €2,663,421** |

## 10.3 Customer Communication

Trade effluent customers will face many changes to their bills over the coming years and UÉ must determine how best to communicate these. Understanding the impact of UÉ's tariff design and transitional arrangements proposals on annual bills will be challenging for customers. This will also pose challenges for UÉ's call centre in dealing with queries arising. UÉ must also engage with customers wishing to develop onsite treatment to manage their trade effluent charges.

UÉ will work to ensure that the CRU's determination on the enduring Trade Effluent Charging Framework is implemented effectively with clear communication to customers during each step of the process. In advance of implementation, UÉ will engage with trade effluent customers to help them understand the impact of UÉ's tariff design and transitional arrangements proposals on bills. UÉ will highlight the importance of trade effluent source control measures and how certain operational changes employed by customers could mitigate aspects of the new trade effluent charge. UÉ will also provide support for such customers wishing to develop onsite treatment to manage their trade effluent charges. The second consultation in 2024 will consider a plan for communicating with all trade effluent customers.

# Appendix 1 - Indicative Enduring Tariffs and Bill impact analysis

The indicative tariffs included in this paper are subject to change and therefore are not final. They are included here to allow trade effluent customers understand the likely impact of UÉ's trade effluent tariff design proposals on tariff levels. It is important to note that future UÉ proposals will consider mitigations to enable customers facing large bill increases to gradually transition to the new tariff rates over a number of years.

Tables A1.1 to A1.4 sets out the indicative tariffs that are an outcome of the combined effects of UÉ's tariff design proposals as set out in sections 5 to 8 of this paper. Specifically, the indicative tariffs in tables A1.1 to A1.4 are a consequence of the following combination of key design elements proposed in this paper:

- Trade effluent tariff structure;
- Three customer classes for trade effluent charges (Trade Effluent Category 1, Trade Effluent Category 2 and Trade Effluent Category 3) based on a combination of Business Activity and annual consumption;
- Costs allocated across all customers, including trade effluent customers, using a Fully Allocated Cost methodology; and
- Multi Part tariffs for water and wastewater comprising of fixed (standing charge and compliance and licensing charge) and variable (volumetric and strength) charge elements.

The indicative tariffs in tables A1.1 to A1.4 have been used combined with the average pollutant values in table A1.5 to support the international price comparison analysis in appendix 2.

The tariffs in tables A1.1 to A1.4 are based on allowed revenues for RC3 (2020-2024) and 2021 cost drivers (volumes, PE and connections) and therefore will change. The indicative tariffs will be updated in the CRU's final decision in 2024 to reflect:

- The CRU's tariff design decisions;
- UÉ's the allowed revenue for the calendar year 2025; and
- An updated cost allocation analysis using 2022 cost drivers (volumes, PE and connections).

Final tariff levels set using the above information will be consulted on by the CRU during the second consultation in 2024.

The NDTF rates (standing charge and volumetric charge) listed in table A1.1 apply to Trade Effluent Category 1 customers. Trade Effluent Category 1 customers will be charged the NDTF Band 1 rates commensurate with their AQ. For further details on the NDTF customer classification see section 5 of UÉ Non-Domestic Tariff Design Proposals paper.

**Table A1.1 Metered Trade Effluent Category 1 indicative rates based on 2024 allowed revenues and 2021 cost drivers**

| Trade Effluent Category | NDTF Customer Class | Standing charge (p.a.) | Volumetric charge (€/$m^3$) | Compliance and Licensing charge |
|---|---|---|---|---|
| Trade Effluent Category 1 | Band 1 (<1,000$m^3$) | €75.45 | €2.35 | €331.10 |
| Trade Effluent Category 1 | Band 2 (1,000 – 19,999$m^3$) | €234.85 | €2.30 | €331.10 |
| Trade Effluent Category 1 | Band 3 (20,000 – 249,999$m^3$) | €3,897.02 | €2.25 | €331.10 |
| Trade Effluent Category 1 | Band 4 (>=250,000$m^3$) | €37,929.49 | €2.17 | €331.10 |

**Table A1.2 Unmetered Trade Effluent Category 1 indicative rates based on 2024 allowed revenues and 2021 cost drivers**

| Trade Effluent Category | NDTF Customer Class | Flat charge (p.a.) | Compliance and Licensing charge |
|---|---|---|---|
| Trade Effluent Category 1 | Unmetered Band 1 | €309.46 | €331.10 |
| Trade Effluent Category 1 | Unmetered Band 2 | €2,367.10 | €331.10 |

**Table A1.3 Trade Effluent Category 2 and 3 indicative standing charge based on 2024 allowed revenues and 2021 cost drivers and indicative compliance and licensing charge**

| Trade Effluent Category | NDTF Customer Class | Standing charge (p.a.) | Compliance and Licensing charge |
|---|---|---|---|
| Trade Effluent Category 2 | Band 2 (1,000 – 19,999$m^3$) | €234.85 | €2,763.21 |
| | Band 3 (20,000 – 249,999$m^3$) | €3,897.02 | €2,763.21 |
| Trade Effluent Category 3 | Band 4 (>=250,000$m^3$) | €37,929.49 | €7,491.37 |

**Table A1.4 Trade Effluent Category 2 and 3 indicative Mogden formula charge per cubic metre**

| Trade Effluent Customer Class | R (€/$m^3$) | V (€/$m^3$) | B (€/$m^3$) | S (€/$m^3$) | Total |
|---|---|---|---|---|---|
| Trade Effluent Category 2 (1,000 – 249,999$m^3$) | €0.58 | €0.85 | €0.45 | €0.38 | €2.26 |
| Trade Effluent Category 3 (>=250,000$m^3$) | €0.48 | €0.85 | €0.45 | €0.38 | €2.16 |

UÉ's proposal to have two Mogden formula charges with different R (€/$m^3$) values is justified based on the cost differentiation identified in UE's cost allocation analysis. Specifically, UÉ's proposal to apply a higher adjustment to the volume cost driver used to allocate wastewater costs to reflect the average network location of the Trade Effluent Category 3 customer group. For further details see section 6 and appendix 3, C1.1 (iii) of UÉ's Non-Domestic Tariff Design Review and Alignment proposals paper.

### Table A1.5 Mogden formula average pollutant values

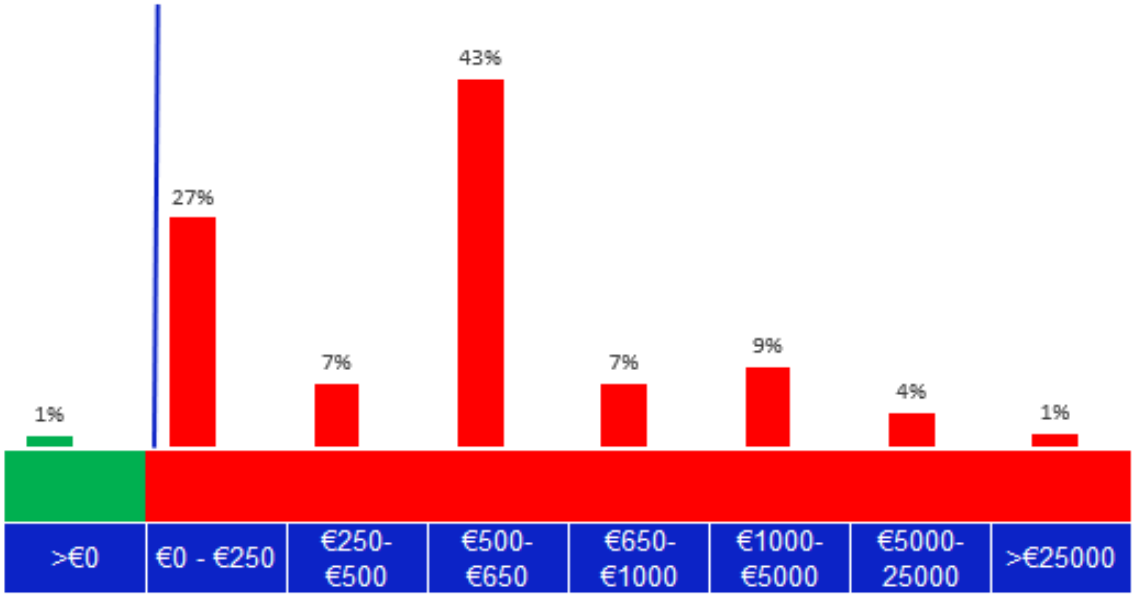
| Pollution parameter | National average[80] |
|---|---|
| Os (National average of COD) | **482**mg/l |
| Ss (National average of suspended solids) | **252**mg/l |

Outlined in figure A1.1, are the indicative impacts on bills for customers in all Trade Effluent Categories 1, 2 and 3. Overall 99% of trade effluent connections will face an increase in their bill. Most connections in Trade Effluent Category 1 are currently, and will continue to be, charged the NDTF standing charges and volumetric charges. A minority of Trade Effluent Category 1 customer are currently on a specific trade effluent charge and will move to the NDTF standing charges and volumetric charges. These tariffs are rising. In addition, the compliance and licensing charge, which will apply to all trade effluent customers, will replace the monitoring or FOG charges which currently apply to some trade effluent customers. This is a new charge for approximately 65% of Trade Effluent Category 1 customers.

Connections in Trade Effluent Category 2 and Trade Effluent Category 3 will move to the relevant NDTF standing charge, an UÉ Mogden formula charge and the compliance and licensing charge. For many connections in these categories their wastewater bills will not have changed since 2013 or, in some cases, for some time before. In addition, many connections will move to a volume and strength based charge for the first time which takes account of the pollution load.

[80] Calculated by UÉ reflecting national average of COD and suspended solids across the network over a rolling three-year period from 2020 to 2022.

**Figure A1.1 – Percentage of Trade Effluent connections estimated to face bill increases or bill decreases if the indicative trade effluent tariffs applied in the 2024/2025 tariff year**




## A1.2 Mogden formula and non-domestic wastewater tariff rate comparison

UÉ's proposed Mogden formula has been designed to reflect the cost of collecting, treating and disposing of wastewater discharged by customers in Trade Effluent Category 2 and Trade Effluent Category 3. UÉ has compared the Mogden formula for consistency with the NDTF volumetric rates if it was charged to a non-domestic customer discharging sanitary wastewater. For the purpose of this comparative analysis, the Mogden formula is populated with average wastewater strength with an Ot parameter value of 482mg/l and an St parameter value of 252mg/l[81]. Table A1.6 provides the outcome of the comparative analysis.

While the Mogden formula charges are slightly below the equivalent non-domestic charges for sanitary wastewater, additional factors must also be taken into account. Trade Effluent Category 2 and Trade Effluent Category 3 customers will also be separately subject to a third (compliance & licensing) component to their charge which will not apply to non-domestic wastewater customers. In addition, in section 6.1 of UÉ's Non-Domestic Tariffs Alignment and Review paper, UÉ proposes that a treatment plant adjustment will apply to reflect the different, and lower on average, costs (opex and capex) associated with each wastewater treatment plant which Trade Effluent Category 2 and 3 customers discharge to. The

[81] Average wastewater strength values (COD 482mg/l and SS 252 mg/l) as determined by UÉ reflecting national average of COD and suspended solids measured across the network from 2020 to 2022.

adjustment is proposed to only apply to trade effluent customers carrying out Industrial Activities and is reflected in the Mogden formula charges used in the below analysis.

**Table A1.6 Mogden formula charge average pollutant values**

| Trade Effluent Class | Mogden Charge for sanitary wastewater | Non-Domestic Customer Class | UÉ proposed Wastewater volumetric rate | Tariff Differential |
|---|---|---|---|---|
| Trade Effluent Category 2 | €2.26/$m^3$ | Band 2 | €2.30/$m^3$ | -€0.04/$m^3$ |
| | | Band 3 | €2.25/$m^3$ | €0.01/$m^3$ |
| Trade Effluent Category 3 | €2.16/$m^3$ | Band 4 | €2.17/$m^3$ | -€0.01/$m^3$ |

## A1.3 Trade effluent transition arrangements

Given the wide range of trade effluent tariffs, structures and rules that are in existence across the country, the move to a harmonised Framework will result in tariff changes (a decrease or an increase) for trade effluent customers. As outlined in section A1.1, on an indicative basis, trade effluent bills will be increasing for 99% of connections. For many, those increases are likely to be significant.

UÉ recognises that increases to customer bills is a key concern for trade effluent customers. It is important to help customers mitigate the impact of bill increases on their businesses. The second consultation planned for 2024 will consider what transitional arrangements are necessary, how these arrangements would work for trade effluent customers and how they would align with transitional arrangements agreed as part of the NDTF.

UÉ also aims to engage with trade effluent customers in advance of the implementation of the new tariffs to communicate the changes and how adjustments in business practices or pre-treatment can help reduce the impact on customers' bills.

# Appendix 2 – International price comparison analysis

**Background**

Throughout its review of the non-domestic and trade effluent tariff design proposals, UÉ was cognisant of the impact of any changes on Ireland's national competitiveness. Competitiveness is a key concern that has previously been raised by stakeholders and customers. In September 2017, the CRU wrote to UÉ requesting inclusion of an international price comparison analysis within the non-domestic tariff proposal submissions. The CRU identified that 'a price comparison analysis will assist stakeholders and non-domestic customers to better understand how UÉ's tariff proposals compare with what is in place internationally'.

UÉ considers that that a price comparison analysis should also comprise an important part of its trade effluent tariff implementation design. This appendix provides that analysis.

**Introduction to the price comparison analysis**

This appendix considers the impact of UÉ's trade effluent tariff design proposals on trade effluent customers. The analysis for Trade Effluent Category 1 customer compares the annual charges to those faced by non-domestic trade effluent customers across a range of international comparators. The analysis for Trade Effluent Category 2 and 3 customer compares the annual charges to those faced by non-domestic trade effluent customers in 8 UK utilities. The range of utilities included in the analysis is constrained by some limitations listed below:

- Not all utilities include a specific trade effluent charge;
- There are inconsistencies in how different UK regions categorise what is trade effluent, and these rules may not align with Irish legislation making meaningful comparisons difficult; and
- There are many and often complex structures in place in other utilities, which may not allow for a meaningful bill comparison. For example, additional or fewer pollutants may not be included.

On this basis the sample included has been sourced from regions where there are comparable rules for charging trade effluent and where the tariff structures can be easily compared with UÉ's proposals. Source data has been collated from high-quality, internationally respected

sources[82], and where necessary, caveats on data are set out. Reference sources for all information in this Appendix are provided in Table A2.1 at the end of the section.

The UÉ annual charges are based on the indicative 2024/2025 charges. The comparison is broken down into two sections to align with UÉ's proposed tariff classification rules. Section A2.1 considers the indicative tariffs for Trade Effluent Category 1 and compares these to a range of international comparators. This analysis is conducted for a range of different wastewater discharge volumes. Under UÉ's proposals, trade effluent connections classified to Trade Effluent Category 1 will not be charged a Mogden formula.

Section A2.2 considers the indicative tariffs for Trade Effluent Category 2 and 3 and compares these to a range of international comparators. This analysis is conducted for the five most common Industrial Activities. Under UÉ's proposals, trade effluent connections classified to Trade Effluent Category 2 and 3 will be charged the Mogden formula. Average wastewater discharge volumes and average values of COD mg/l and SS mg/l from UÉ's database are relied on for this analysis.

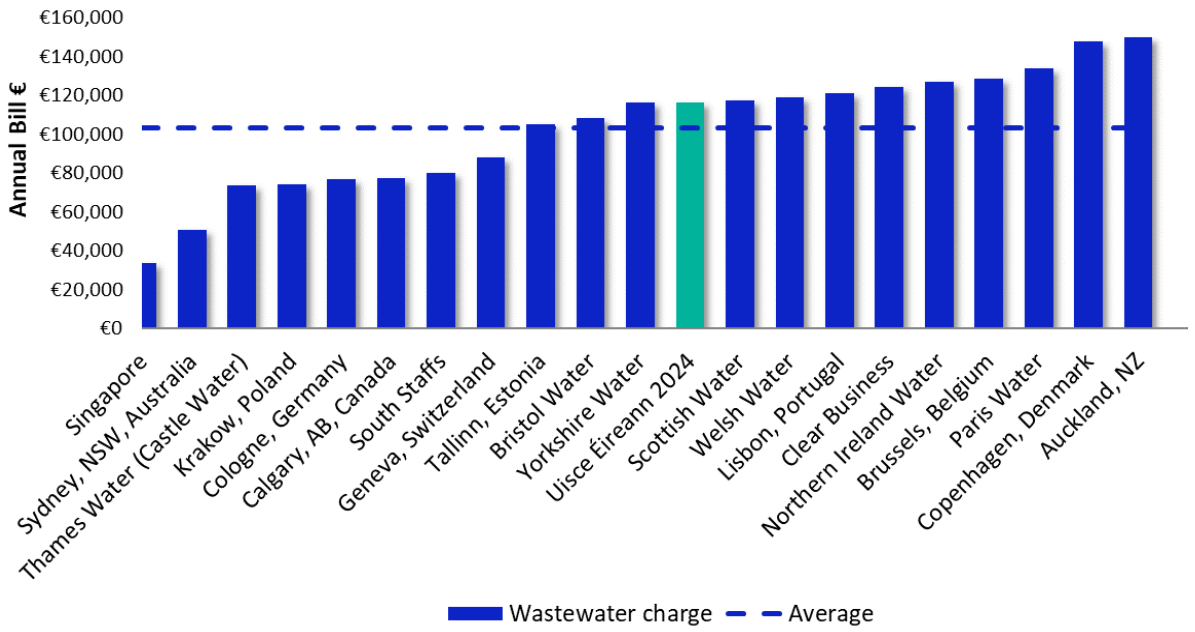
It is important to note that UÉ's indicative charges are for 2024 and the charges compared in this analysis are the current charges of these regions which could reasonably be expected to increase by then.

## A2.1 Comparison of charge applying to connections in Trade Effluent Category 1

**Comparison of the annual trade effluent charges faced by Trade Effluent Category 1 customers discharging 100m$^3$ per annum**

Proposed Trade Effluent Category 1 charges (standing charge, volumetric charge and compliance and licensing charge) faced by a customer discharging 100m$^3$ annually. Figure A2.1 illustrates UÉ's indicative annual charge relative to other regions.

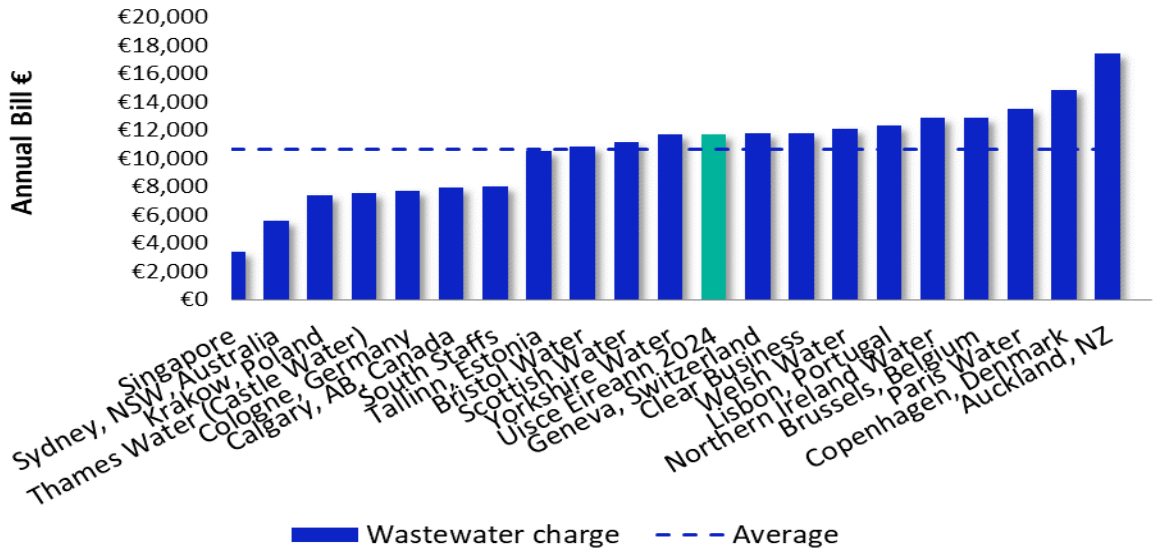
## Figure A2.1 Trade effluent charges for 100m$^3$ per annum




**Comparison of the annual trade effluent charges faced by Trade Effluent Category 1 customers discharging 5,000m$^3$ per annum**

Proposed Trade Effluent Category 1 charges (standing charge, volumetric charge and compliance and licensing charge) faced by a customer discharging 5,000m$^3$ annually. Figure A2.2 illustrates UÉ's indicative annual charge relative to other regions.

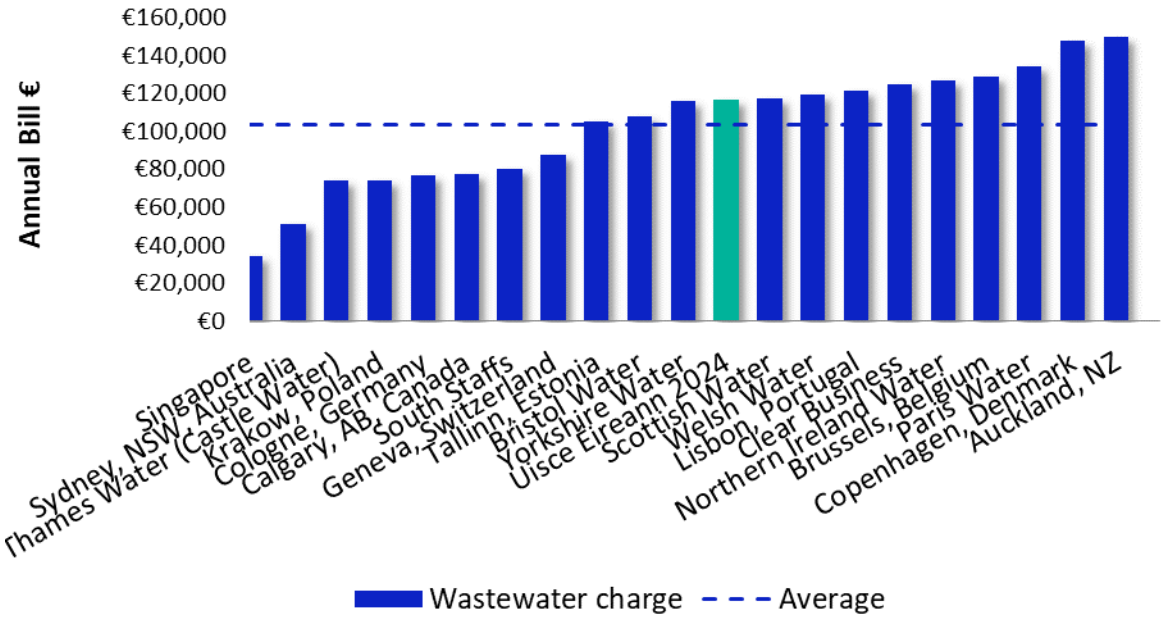
## Figure A2.2 Trade effluent charges for 5,000m$^3$ per annum



**Comparison of the annual trade effluent charges faced by Trade Effluent Category 1 customers discharging 50,000m$^3$ per annum**

Proposed Trade Effluent Category 1 charges (standing charge, volumetric charge and compliance and licensing charge) faced by a customer discharging 50,000m$^3$ annually. Figure A2.3 illustrates UÉ's indicative annual charge relative to other regions.

**Figure A2.3 Trade effluent charges for 50,000m$^3$ per annum**




## A2.2 Comparison of charge applying to connections in Trade Effluent Category 2 and 3

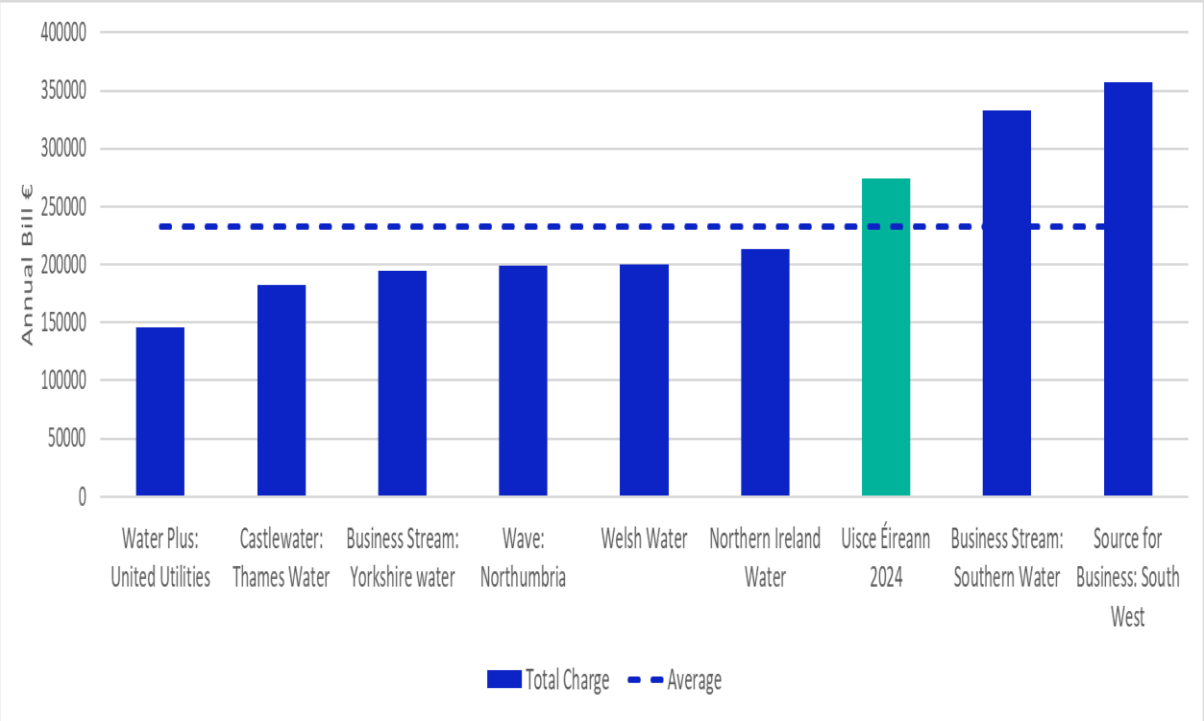
**Comparison of the annual charges faced by trade effluent customers in TEC Code 1.1 (manufacturing of alcoholic beverages sector)**

This section compares the annual, indicative charges faced by a typical trade effluent customer categorised into TEC Code 1.1. With an Annual Quantity of 49,500m$^3$, the UÉ Trade Effluent Category 2 tariffs apply. The annual average measure of COD is 3,207 mg/l and the annual average measure of SS is 370mg/l.

Figure A2.4 illustrates UÉ's indicative annual charge inclusive of Mogden formula charge, standing charge and compliance and licensing charge, relative to the charges that apply in other regions.

Where applicable, the first name shown on the graph is the retailer and the second is the region it's located in.

**Figure A2.4 Annual Charge for TEC Code 1.1.**

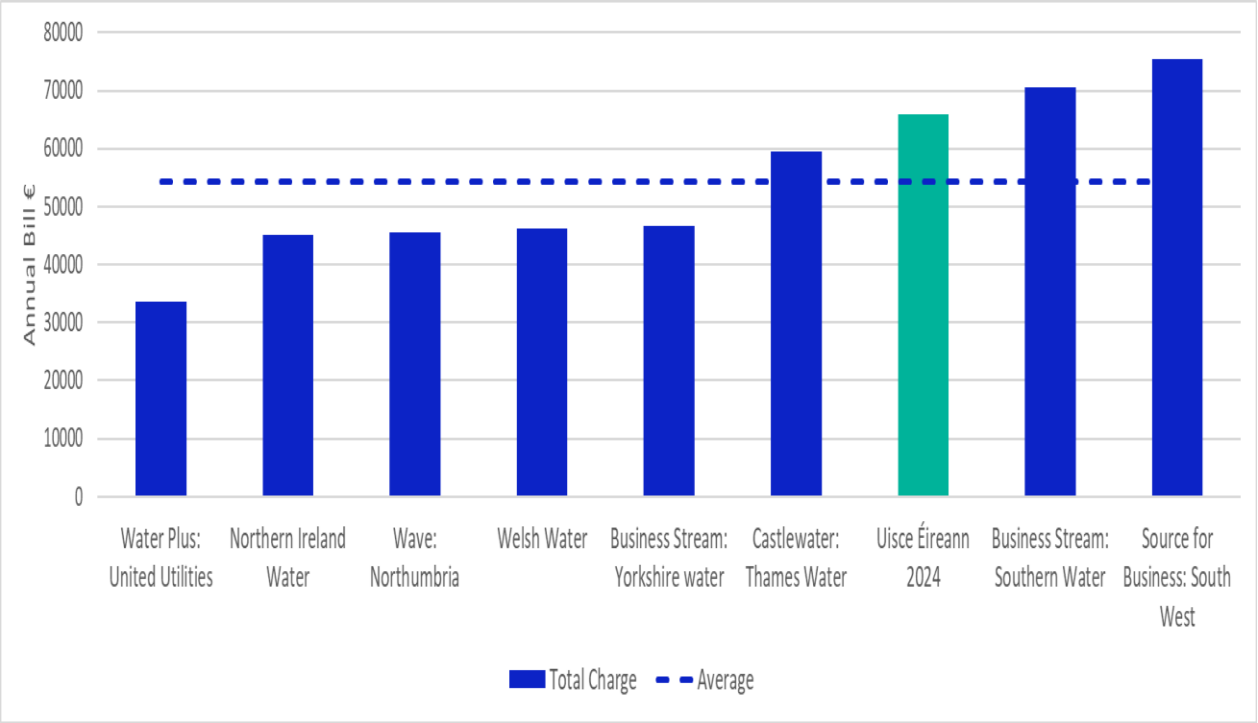



**Comparison of the charging variables faced by trade effluent customers in TEC Code 9.2 (secondary food production and preparation) sector**

This section compares the annual, indicative charges faced by a typical trade effluent customer categorised into TEC Code 9.2. With an Annual Quantity of 16,697m$^3$, the UÉ Trade Effluent Category 2 tariffs apply. The annual average measure of COD is 1616 mg/l and the annual average measure of SS is 330mg/l. Figure A2.5 illustrates UÉ's indicative annual charge inclusive of Mogden formula charge, standing charge and compliance and licensing charge relative to the charges that apply in other regions.

Where applicable, the first name shown on the graph is the retailer and the second is the region it's located in.

## Figure A2.5 Annual Charge for TEC Code 9.2

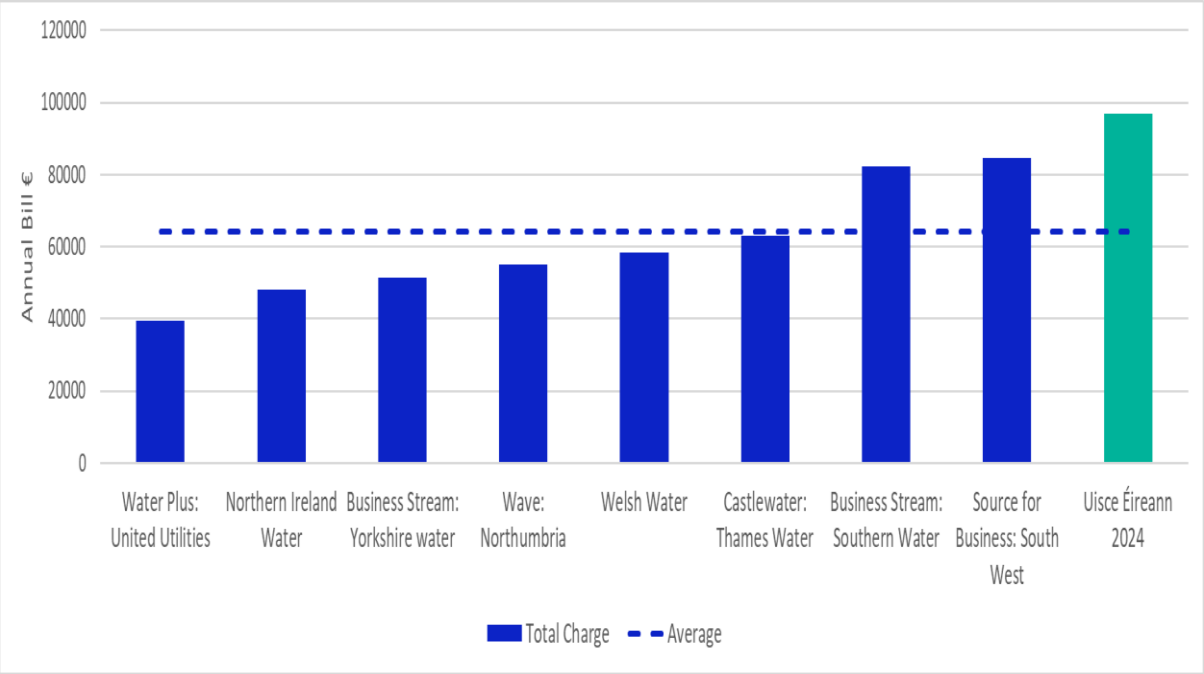



**Comparison of the charging variables faced by trade effluent customers in TEC Code 4.1 (manufacturing of chemicals)**

This section compares the annual, indicative charges faced by a typical trade effluent customer categorised into TEC Code 4.1. With an annual quantity of 31,059m$^3$, the UÉ Trade Effluent Category 2 tariffs apply. The annual average measure of COD is 782 mg/l and the annual average measure of SS is 51mg/l. Figure A2.6 illustrates UÉ's indicative annual charge inclusive of Mogden formula charge, standing charge and compliance and licensing charge relative to the charges that apply in other regions.

Where applicable, the first name shown on the graph is the retailer and the second is the region it's located in.

**Figure A2.6 Annual Charge for TEC Code 4.1.**

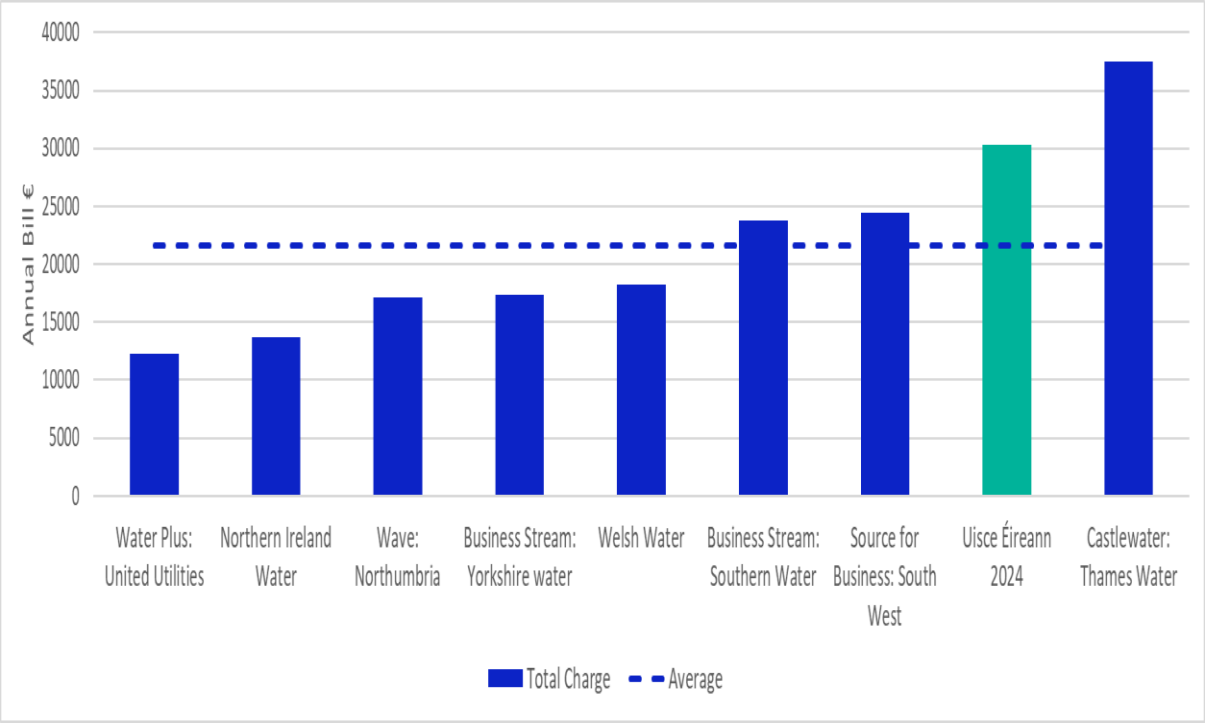



**Comparison of the charging variables faced by trade effluent customers in TEC Code 8.1 (engineering based manufacturing) sector**

This section compares the annual, indicative charges faced by a typical trade effluent customer categorised into TEC Code 8.1. With an annual quantity of 11,414m$^3$, the UÉ Trade Effluent Category 2 tariffs apply. The annual average measure of COD is 414 mg/l and the annual average measure of SS is 64mg/l. Figure A2.7 illustrates UÉ's indicative annual charge inclusive of Mogden formula charge, standing charge and compliance and licensing charge relative to the charges that apply in other regions.

Where applicable, the first name shown on the graph is the retailer and the second is the region it's located in.

## Figure A2.7 Annual Charge for TEC Code 8.1

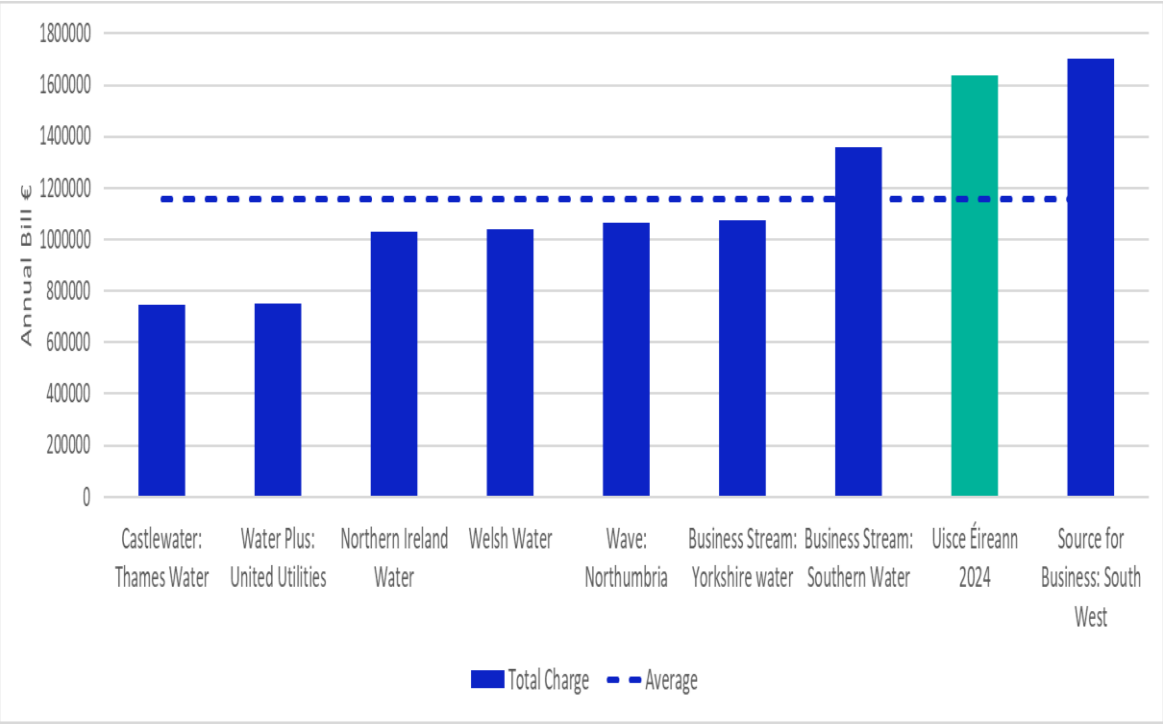



**Comparison of the charging variables faced by trade effluent customers in TEC Code 9.1 (primary food production and preparation) sector**

This section compares the annual, indicative charges faced by a typical trade effluent customer categorised into TEC Code 9.1. With an annual quantity of 587,111m$^3$, the UÉ Trade Effluent Category 3 tariffs apply. The annual average measure of COD is 953 mg/l and the annual average measure of SS is 85mg/l. Figure A2.8 illustrates UÉ's indicative annual charge inclusive of Mogden formula charge, standing charge and compliance and licensing charge relative to the charges that apply in other regions.

Where applicable, the first name shown on the graph is the retailer and the second is the region it's located in.

## Figure A2.8 Annual Charge for TEC Code 9.1




**Sources**

Table A2.1 below provides a list and links to the published schedule or scheme of tariffs for each region. The annual charges for each region included in figures A2.1 to A2.8 are based on the tariff rates in the schedule or scheme of tariffs.

## Table A2.1 Sources

| Region | Scheme of Charges | Trade Effluent Category |
|---|---|---|
| Bristol Water | Bristol Water (Water 2 Business) 2023/2024 | Category 1 |
| Auckland, NZ | Auckland (Water Care) 2022 | Category 1 |
| Brussels | VIVAQUA Non-Domestic | Category 1 |
| Calgary, Canada | Calgary 2023 | Category 1 |
| Cologne, Germany | Cologne, Germany Wastewater 2023 | Category 1 |
| Copenhagen, Denmark | Copenhagen, Denmark 2023 | Category 1 |
| Geneva, Switzerland | Geneva, Switzerland (SIG) | Category 1 |
| Krakow, Poland | Krakow, Poland 2023 | Category 1 |
| Lisbon, Portugal | Lisbon, Portugal (EPAL) Wastewater 2023 | Category 1 |
| Paris, France | Paris Water 2023/24 | Category 1 |
| Northern Ireland Water | NI Water 2023/24 | Category 1,2 and 3 |
| Scottish Water | Scottish Water 2023/24 | Category 1 |
| South Staffs | South Staffs Wastewater (Source for Business) 2023/24 | Category 1 |
| Singapore | Singapore 2018 | Category 1 |
| Sydney Water | Sydney 2020-24 | Category 1 |
| Tallin, Estonia | Tallinn and Saue 2022/23 | Category 1 |
| Thames Water | Thames Water (Castle Water) 2023/24 | Category 1,2 and 3 |
| Clear Business | Clear Business 2023/24 | Category 1 |
| Welsh Water | Welsh Water 2023/24 | Category 1,2 and 3 |
| Yorkshire Water | Charging scheme or Yorkshire Water | Category 1,2 and 3 |
| Business Stream, Southern Water | Source for Business (Southern Water) 2022/23 | Category 2 and 3 |

| | | |
|---|---|---|
| Business Stream, South West | Source for Business (South West) 2022/23 | Category 2 and 3 |
| Wave, Northumbria | Wave, Northumbria 2022/23 | Category 2 and 3 |
| Water Plus, United Utilities | Water Plus, (United Utilities) 2022/23 | Category 2 and 3 |

**Caveats, Assumptions and Regional Differences**

It is important to note that tariff design for trade effluent customers differs from region to region. These differences are reflected in UÉ's international comparison analysis and the most notable are acknowledged below.

- The comparison is based on the wastewater bill faced by trade effluent customers in each region.
- It is worth noting that in some jurisdictions surface water or highway drainage is charged in addition to the wastewater charges.
- Where applicable the annual average measure of COD (mg/l) and SS (mg/l) from each region are used as the inputs to where TE category 1 charges in regions where Mogden formulae apply in those regions.
- Tariff structure varies across the regions included in the international comparison analysis.
- A non-return to sewer adjustment is a common feature in international regions where wastewater costs are allocated to wastewater customers in accordance with the percentage of water delivered to them. The international analysis correctly reflects any region which applies this adjustment by applying a volumetric unit rate to the volume of water delivered less a non-return to sewer allowance (usually 5% or 10%) for any volume not discharged to the sewer.
- Similar to UÉ, customers in other regions are classified in groups by reference to the annual volume of water consumed. Different standing charges, volumetric unit charges or both are applied to different groups of customers.
- Customers are classified by reference to their pipe size or meter size in some international regions. UÉ has applied consistent assumptions regarding the meter size or pipe size in its comparison at different levels of annual consumption aligned with a measure of water which could be expected to be consumed.
- 2023 tariff rates are used throughout the analysis. In certain cases (Tallinn, Cologne, Krakow, Singapore and Geneva) the charging scheme was published before 2022 but the tariff rates remained relevant at the time of UÉ's analysis. 2023/24 charging rates were used for the UK regions.
- Regions included in this analysis which are outside of the Euro area have their rates converted to EUR at average conversion rate for 2022.
- UE's tariff rates are based on current relevant costs and its indicative tariff rates are for 2024. It is important to note that majority of international tariffs used in this comparison are predominately for 2023 (or prior).
- Factors such as demographics, costs and regulatory models which impact on tariff design and levels differ from location to location.

- Portugal's wastewater charges are based on urban wastewater management tariffs and sewage tariffs. It is assumed that these services combine to form the equivalent of UÉ's wastewater services.
- Only relevant charges are considered in the analysis. Other charges (or rebates) such as connection charges, leakage discounts, fire hydrant charges, recycled water allowance, or any other special pricing which can be applied in other regions are ignored for the purposes of the international comparison analysis.
- Value added tax (VAT) does not apply to UÉ water service tariffs but it or other taxes may be a component of other utilities tariff structures, for example in Geneva a federal tax applies to wastewater tariffs.

# Appendix 3 - List of TE Categorisation Codes

UÉ grants and enforces trade effluent licences for specified Commercial Activities and Industrial Activities. Section 6 proposes classifying trade effluent customers into three Categories based upon activity and annual consumption. A customer's classification will be reviewed annually based on the most recent, if any, changes to the business activity and the most recent consumption data. TEC codes are used to categorise trade effluent customers into defined Commercial Activities and Industrial Activities with similarities in the relative strength of trade effluent discharged.

Some typical Customer types carrying out Commercial and Industrial Activities which require a trade effluent licence include those listed in table A3.1:

**Table A3.1: List of common Commercial and Industrial Activities requiring a trade effluent licence**

| Industrial Activities | Commercial Activities |
|---|---|
| • Biopharma, Chemical, Pharmaceuticals, medical devices<br>• Energy – Data centres, boiler blowdown<br>• Food and Drink – production and manufacture of food products and beverages<br>• Manufacturing/ Engineering<br>• Metals – smelting<br>• Scientific and Technical Activities – Laboratories<br>• Surface Coatings – metal finishing Transportation – Plant and vehicle washing<br>• Transportation – Pant and vehicle washing<br>• Waste – waste collection, treatment and disposal activities | • Food Services – Food Service Establishments e.g., Restaurants, Cafes, Delis etc.<br>• Hospitals and Nursing homes<br>• Laundering<br>• Swimming pools<br>• Commercial Car washes<br>• Construction Activities |

UÉ assigns business activities a TEC code description and number which reflects each trade effluent licensee's primary activity and relative strength of effluent discharged. UÉ proposes banding TEC codes together into Commercial Activities and Industrial Activities reflecting similarities in the strength or concentration of pollutants in the wastewater discharged. UK

Water and Sewerage Companies also use TEC codes to categorise similar business activities into defined trade effluent customer classes.

A detailed description and guide to the TEC codes UÉ proposes classifying as Commercial Activities and Industrial Activities is set out in tables A3.2. and A3.3 respectively.

Listed in each table is sector classification which can be used to help identify TEC codes that may apply to a given trade effluent customer. Customers can find which TEC code applies to them by identifying the activity classification that best describes their primary activity. UÉ has a guide to each classification to help customers understand in more detail what the activity classification means. In addition to these tables, UÉ informs customers of their own TEC Code as part of its licencing process.

**Table A3.2: List and guide to Commercial Activities by TEC Code.**

| TEC Code[83] | Sector Classification | Activity Classification | Guide to Classification |
|---|---|---|---|
| 15.2 | Service Activities | Laundering (Small-scale) | Coin-op launderette and small-scale laundry operations (<=50 $m^3$/day). |
| 30.2 | Agriculture | Farming, livestock markets, horticulture and related activities | General farming, horticulture and nursery activities. Animal husbandry services (boarding and care), including aquatic animals. Veterinary activities. Associated hygiene activities. (See TEC code 31.1 for cleaning of farm machinery.) |
| 31.2 | Transportation | Vehicle and plant washing | Vehicle washing (external) of cars, commercial fleet vehicles, lorries/trucks, HGV's and PSV's (not including hand car wash activities) |
| 32.1 | Service Activities | Leisure facilities | Swimming pools, leisure and sports facilities open for the general public's use. |
| 33.1 | Scientific and Technical Activities | Photographic and X-ray film processing | Consumer and commercial film processing and printing. Commercial and health X-ray. Microfiche. Photographic activities associated with newspapers. |

[83] This list represents the currently known Commercial Activities which result in a trade effluent discharge. UÉ may, as required, update the list of TEC codes to include other trade effluent activities which fall outside the current TEC code list.

| | | | |
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| 38.2 | Scientific and Technical Activities | Laboratory and research activities (Medium Impact) | General laboratory services and research activities into non-biological materials. Technical testing and quality control of products. |
| 39.1 | Energy | Boiler blowdown | Boiler and compressor blowdown, water softer regen waste and cooling tower bleed. |
| 40.2 | Waste collection, treatment and disposal activities; materials recovery | Water arising from excavations. Not treated groundwater remediation schemes. (<12 months duration) | Water arising from excavations. Not to include treated groundwater remediation schemes (<12 months duration). |
| 43.1 | Service Activities | Patient Care General | Discharges from hospitals and nursing homes < 50$m^3$/Day. |
| 40.2 | Construction Activities | Water arising from excavations. Not treated groundwater remediation schemes. (<12 months duration) | Water arising from excavations. Not to include treated groundwater remediation schemes (<12 months duration). |
| 50.1 | Food Services | Food Service Establishments | Food Service Establishments (FSEs) are where food is prepared, cooked or served. These include restaurants, takeaways, pubs which serve cooked |

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| | | | food, cafés, coffee shops, hotels, B&Bs, convenience stores and supermarkets, garage forecourt shops with delicatessen counters, food production kitchens etc. |

### Table A3.3: List and guide to Industrial Activities by TEC Code

| TEC Code[84] | Sector Classification | Activity Classification | Guide to classification |
|---|---|---|---|
| 1.1 | Food and Drink | Alcoholic beverages | Manufacture of beer, wines, cider and perry and other alcoholic beverages. |
| 2.1 | Manufacturing /Engineering | Brick making | Manufacture of non-cementitious products. |
| 3.1 | Manufacturing /Engineering | Cement, lime, plaster, ready-mix concrete manufacture and their products | Manufacture of cement, lime, plaster processes and products. Technical testing of products. |
| 3.2 | Manufacturing /Engineering | Concrete batching yard | Surface water run-off from ready-mix concrete batching yard. |
| 4.1 | Biopharma/Chemical | Chemical and pharmaceutical manufacture | Manufacture of chemicals including dyestuffs/pigments, fertilisers, agro-chemicals, photographic and pharmaceutical including veterinary products. |
| 6.1 | Food and Drink | Ethanol and methanol distillation | Manufacture and distillation of ethanol and methanol. |

[84] This list represents the currently known Industrial Activities which result in a trade effluent discharge. UÉ may, as required, update the list of TEC codes to include other trade effluent activities which fall outside the current TEC code list.

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| 7.1 | Energy | Electricity generation and distribution | Generation by all means. Transmission, distribution and supply, not including associated cooling or regen' water (TEC code 39.1). |
| 8.1 | Manufacturing /Engineering | Engineering | Engineering based manufacturing. Metal fabrication processes (e.g., welding). Physical surface treatment (tumbling, de-burring, painting). Cleaning of products and plant. Technical testing. |
| 9.1 | Food and Drink | Food processing | Slaughtering. Primary preparation and preservation of meat, including pelagic fish species. Liquid dairy products (milk / yoghurts), sugar products. Soft drinks. Flavours, essences. |
| 9.2 | Food and Drink | Food processing | Manufacture of cheese type dairy products, bakeries. Secondary preparation and preservation of meat & fish. Production of pet foods, animal feeds, soups, ready meals. Malt production. Quality control testing. |
| 9.3 | Food and Drink | Food processing | Primary preparation of fish (e.g., filleting) excluding pelagic species. Packaging, bottling. Production of mineral water. Salad and vegetable washing. Tobacco. |
| 10.1 | Manufacturing /Engineering | Gas production, storage and distribution | Production, storage and distribution, including gas holder seal water overflow. Excluding ground/site remediation. |

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| 11.1 | Manufacturing /Engineering | Glass making and products | Production, shaping and processing (including toughened, laminated, insulating, hollow, scientific and mirrors). |
| 12.1 | Manufacturing /Engineering | Glue and adhesive manufacture | Manufacture of glue and adhesive compounds and associated products. Cleaning of equipment. |
| 13.1 | Manufacturing /Engineering | General manufacturing | Manufacture and assembly of products not involving a specific process. |
| 14.1 | Metals | Iron and steel making and ferrous metal foundry | Iron and steel making, processing. Manufacture of cast iron and steel products. |
| 15.1 | Service Activities | Laundering (Large-scale) | Commercial, industrial; and private hospital laundries (>50 $m^3$/day). |
| 16.1 | Manufacturing /Engineering | Leather, tanning and dressing | Tanning, dressing and recovery. Technical testing. |
| 17.1 | Metals | Metal smelting | Refining and processing of non-ferrous metals. |
| 18.1 | Manufacturing /Engineering | Paint manufacture | Manufacturing of paints and coating products. Cleaning of equipment. Technical testing. |

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| 19.1 | Manufacturing /Engineering | Paper and paperboard products | Manufacture of pulp, paper and board and their products including associated processes of coating, covering, impregnation and gluing. Cleaning of equipment. |
| 20.1 | Manufacturing /Engineering | Petroleum refining | Refining of petroleum and its products. Bulk storage. Excluding contaminated surface water run-off. |
| 21.1 | Manufacturing /Engineering | Plastics manufacturing | Manufacture of plastics and its use in manufacturing of other items. |
| 22.1 | Surface Coating | Plating and metal finishing | Surface treatments such as electro-deposition, enamelling, chemical etching and/or engraving, pacifying, hardening and heat treatment. Includes zinc phosphating. |
| 22.2 | Surface Coating | Plating and metal finishing | Surface treatments such as iron phosphating, mechanical etching and/or engraving, powder coating, anodising, alochrome, fast-blacking and lacquering. |
| 23.1 | Manufacturing /Engineering | Pottery making | Manufacture of ceramics, pottery and chinaware. |
| 24.1 | Manufacturing /Engineering | Printing and related activities | Manufacture of inks. Printing of newspapers, books, magazines, brochures, stationary etc. Offset, flexographic and screen printing. Production of plates and stencils. Associated processes of bookbinding and finishing. Cleaning of equipment. |

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| 26.1 | Manufacturing /Engineering | Rubber processing and products | Processing of rubber compounds. Manufacture of finished rubber products. Cleaning of equipment. |
| 27.1 | Manufacturing /Engineering | Soap, detergents, toiletries and cleaning products | Manufacture of soap, detergent, cleaning and polishing products. Cosmetic products and toiletries. Cleaning of equipment. Technical testing. |
| 28.1 | Manufacturing /Engineering | Textile - cotton and synthetic | Washing of raw material. Finishing including bleaching, dyeing, etc. |
| 29.1 | Manufacturing /Engineering | Textile - woollen | Washing of raw material. Finishing including bleaching, dyeing, etc. |
| 30.1 | Agriculture | Farming, livestock markets, horticulture and related activities | Intensive rearing of livestock and poultry. Dairy farming and Livestock markets. |
| 31.1 | Transportation | Vehicle and plant washing | Heavy industrial tool & plant washing not under 31.2. CVRT washings of HGV's and PSV's. Washing down of agricultural machinery associated with agro-chemical application. Also, aircraft & under body cleaning of trains. |
| 34.1 | Manufacturing /Engineering | Electrical, electronic and instrument manufacture | Manufacture of printed circuit boards and electrical / electronic components including associated plating and |

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| | | | etching. Associated cleaning activities. Technical testing. |
| 36.1 | Waste collection, treatment and disposal activities; materials recovery | Domestic refuse containers | Cleaning of domestic refuse containers. |
| 37.1 | Waste collection, treatment and disposal activities; materials recovery | Tip leachates and land remediation | Leachate and contaminated groundwater from active refuse landfills, land remediation schemes and Alpheus waste reception centres. |
| 37.2 | Waste collection, treatment and disposal activities; materials recovery | Tip leachates and land remediation | Leachate and contaminated groundwater from closed refuse landfills. |
| 38.1 | Scientific and Technical Activities | Laboratory and research activities (High Impact) | General laboratory services and research activities into biological materials. Technical testing and quality control of products. |
| 39.2 | Energy | Cooling tower bleed | Bleed off from cooling towers. |

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| 40.1 | Waste collection, treatment and disposal activities; materials recovery | Rainwater and surface water run-off | Contaminated rainwater and surface water run-off including bund water from Civic amenities, waste recycling sites, waste transfer stations and End-of-Life vehicle dismantling yards. |
| 41.1 | Waste collection, treatment and disposal activities; materials recovery | Tanker cleaning (internal) | Internal cleaning of road tanker, bulk container vehicles, skips and industrial refuse containers. |
| 44.1 | Service Activities | Funeral Directors and Morticians | Funeral Directors, Undertakers, Morticians and Taxidermists - activities involving the preservation or disposal of human and animal bodies. Activities involving the making or cleaning of funeral accessories. |
| 44.2 | Service Activities | Water cremation (alkaline hydrolysis) | Water cremation (alkaline hydrolysis). |

# Appendix 4 - Glossary of Terms and Abbreviations

Table A4.1 follows with a glossary of terms and abbreviations used in this paper.

### Table A4.1: Glossary of Terms and Abbreviations

| Abbreviation or Term | Definition or meaning |
|---|---|
| ***AQ or Annual Quantity*** | Means the volume of water used (or wastewater discharged for wastewater only connections) by a connection over a 12-month period. An AQ will be calculated by UÉ once a year for every connection, and this determines the connection's tariff class for the next tariff year. |
| ***Availability charge*** | Means a set of fixed charges calculated based on the maximum volume, strength and solids content of a customer's effluent as specified in the Trade Effluent Discharge Authorisation. |
| ***Average wastewater strength*** | UÉ has calculated the average strength of wastewater at its wastewater treatment plants in terms of COD and SS as 482mg/l COD and 252 mg/l SS. |
| ***BOD*** | Means Biochemical Oxygen Demand. Concentration of dissolved oxygen consumed under specific conditions (t days at 20 °C with or without nitrification inhibition) by the biological oxidation of organic and/or inorganic matter in water. [One of the standard tests used to characterise water quality] The BOD value is most commonly expressed in milligrams of oxygen consumed per litre of sample during 5 days of incubation at 20 degrees Celsius also known as 5 day BOD or BOD5. |

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| ***COD*** | Means Chemical Oxygen Demand. Concentration of oxygen equivalent to the amount of dichromate consumed when a water sample is treated under defined conditions. [One of the standard tests used to characterise water quality] It is commonly expressed in terms of milligrams of oxygen per litre of sample. |
| ***ELVs or Emission Limit Values*** | Means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time. |
| ***EPA*** | Means the Environmental Protection Agency. |
| ***FSE*** | Means Food Services Establishments, for example cafes, restaurants, pubs and canteens. |
| ***Industrial Emissions or IE licence*** | Means an Industrial Emissions licence for specified industrial and agricultural activities granted and enforced by the EPA. |
| ***Integrated Pollution Control or IPC licence*** | Means licences which aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. IPC licensing is governed by the EPA Act 1992 as amended. |
| ***Mogden formula*** | Means a formula to calculate the charges to collect, treat and dispose of trade effluent. Various components of treatment, for example Volume, COD or BOD, and SS are separate inputs to the formula. |
| ***NACE code*** | Means the industry standard for classifying economic activities in the European Union[85]. |

[85] As set out in the Annex to Council Regulation (EEC) No. 3037/90 of 9 October 1990

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| ***Operating charge*** | Means a charge calculated on the actual volume, strength and composition of the effluent that is discharged from the customer's property to the public sewer. |
| ***Population Equivalent (PE)*** | Means the unit expressing the average potential water pollution load caused by one person per day, where 1 PE is the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day.<br>[Wastewater treatment plants are described in terms of their treatment capacity, which is generally expressed as population equivalents (PE).] |
| ***Primary wastewater treatment*** | Means the removal of material that will either float or readily settle out by gravity. It includes the physical processes of screening, comminution, grit removal, and sedimentation. |
| ***Reception and conveyance*** | Means the collection for transport of effluent in the public sewer. |
| ***Sanitary wastewater*** | Means wastewater of a composition and concentration (biological and chemical) which originates predominantly from the human metabolism or from day-to-day domestic type human activities, including washing and sanitation. Sanitary wastewater is generated by both domestic and non-domestic customer classes. |
| ***Secondary wastewater treatment*** | Means the removal of biodegradable organic matter (in solution or suspension) from wastewater. Secondary treatment uses micro-organisms to remove the biodegradable or organic waste. |
| ***Sewer*** | Means drainage pipes and sewers of every description (excluding storm water sewers), owned by, vested in or controlled by UÉ but does not include a customer drain or connection. |

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| ***SS or Suspended Solids*** | Means small solid particles which remain in suspension in water. SS is an indicator of water quality. |
| ***Strength (in terms of trade effluent or wastewater)*** | Means the level of pollutants or pollutant load contained in the trade effluent or wastewater. |
| ***TEC codes*** | Means trade effluent categorisation code. TEC codes provide a method of reviewing, informing and setting the relative risks of issues from experience of trade effluent discharges from various trade sectors. |
| ***TERA tool*** | Means a commonly used risk assessment model used by UÉ and many UK utilities to understand the relative risk rating of trade effluent customers by taking account of factors such as the type of process being undertaken on site, licence limits and sampling values and the relative size of the agglomeration in which the customer's effluent is treated. The TERA tool provides a risk rating for each trade effluent customer. |
| ***Tertiary wastewater treatment*** | Tertiary water treatment is the final stage of the multi-stage wastewater cleaning process. This third stage of treatment removes inorganic compounds, bacteria, viruses, and parasites. Removing these harmful substances makes the treated water safe to reuse, recycle, or release into the environment. |
| ***Trade effluent*** | Means effluent from any works, apparatus, plant or drainage pipe used for the disposal to a wastewater works of any liquid (whether treated or untreated), either with or without particles of matter in suspension therein, which is discharged from premises used for carrying on any trade or industry (including mining), but does not |

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| | include domestic wastewater or storm water; [Water Services Act 2007]<br><br>In short, it is wastewater arising from a trade, service, research or manufacturing activity that is discharged to the sewer.<br><br>Trade effluent has a different composition to "sanitary wastewater" and may contain additional or higher levels of pollutants that prove more difficult and costly to treat. |
| ***Trade Effluent Discharge Authorisation*** | Means a trade-effluent discharge licence issued to the Customer by a Local Authority or Uisce Éireann under section 16 of the Local Government (Water Pollution) Act, 1977 (as amended); or a trade-effluent discharge licence issued to the Customer by Uisce Éireann under section 63 of the Water Services Act, 2007 (as amended); or an industrial emissions licence, integrated pollution control licence, or waste facility licence issued to the Customer by the Agency, as the case may be. |
| ***UK WaSCs*** | Means UK Water and Sewerage Companies. |
| ***Waste licence*** | Means certain waste sector activities licensed by the EPA. These include landfills, transfer stations, hazardous waste disposal and other significant waste disposal and recovery activities. |
| ***Wastewater*** | Is wastewater which enters a wastewater works and is a mixture of sanitary wastewater from Domestic and/or Non-Domestic sources and may contain trade effluent (whether treated or untreated), storm water and groundwater. |
| ***Wastewater works*** | Means sewers and their accessories, and all other associated physical elements used for collection, storage or treatment of wastewater, and any related land, which are owned by, vested in, controlled or used by any person providing or intending to provide water services; |

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| ***Water In is Not Equal to Water Out (WIWO)*** | Means certain circumstances where the amount of water supplied by UÉ to a customer's premises can vary from the amount of wastewater discharged to the public sewer. See here for further details including UÉ's WIWO application process. |
| ***WSPP*** | Means the Government's Water Services Pricing Policy. |
| ***WWSCL*** | Means UÉ's Wastewater Source Control and Licensing team. |