



Trade effluent capping — a technical note
February 2008

This note explains how wholesale charges for customers on capped trade effluent arrangements will be phased on to full charges. It implements the results of the Commission's consultation on charging for trade effluent, published in December 2006.

TRADE EFFLUENT CAPPING — A TECHNICAL NOTE

Background

Scottish Water's wholesale charges scheme recognises that some customers have, historically, paid trade effluent charges at rates that are lower than Scottish Water's standard published charges. These arrangements are referred to here as "capped trade effluent arrangements".¹

All capped trade effluent arrangements will be phased out over three years so that, from 2010-11, standard published charges apply to the affected discharge points. This is consistent with the policy published by the Commission in December 2006. As set out in the Commission's policy, 2007-08 was a grace year and the phased removal of caps commences in 2008-09.

Phased charges will be calculated so that, before allowing for the impact of changes in underlying variables (volume, strength, consent parameters and prices), the wholesale charge will grow in the same proportion each year. This will be achieved by applying a profile of discount factors to the charges each affected customer would pay if they were subject to the full published trade effluent charges. The profile of discount factors will remain unaffected by changes to the underlying variables.

Calculation method

The discount for each arrangement for each year will be calculated as follows.

Step 1. Calculate the discount for the base year (2006-07 for most customers).

$$d_0 = \frac{(U_0 - C_0)}{U_0}$$

where d_0 is the discount for the customer in the base year, expressed as a percentage of the uncapped charge
 U_0 is the charge applicable to the customer in the base year according to standard published charges (the "uncapped charge")
 C_0 is the charge paid by the customer in the base year under the capping arrangement (the "capped charge").

Step 2. Calculate the annual growth rate required to phase the discount out over three years.

$$r = \sqrt[3]{\frac{1}{(1 - d_0)}} - 1$$

¹ For these purposes, a customer for whom a "relevant agreement" (within the meaning of Schedule 3 to the Water Services etc. (Scotland) Act 2005) is in place is deemed not to be subject to a capped trade effluent arrangement. See "special cases" below for a discussion of discharges that do not receive full secondary treatment.

where r is the notional annual growth rate that will apply to the charges for the customer.

Step 3. Calculate the notional charges that will apply in each year of the phasing period (assuming no change to prices and customer characteristics during that time). For each year i where $i > 0$:

$$C_i = C_0(1 + r)^i$$

where C_i is the notional capped charge paid by the customer in year i of the phasing period
 i is 0 for the base year, 1 for the first year of phased increases, etc.

Step 4. Convert the notional charges into discounts to apply to the customer in each year. For each year i .

$$d_i = \frac{(U_0 - C_i)}{U_0}$$

Step 5. When charges are calculated² for the customer in each year i of the phasing period, the discount d_i will be applied to give the actual capped charge.

Example

The following example shows a customer who was charged £500 (at a retail level) in the base year, but would have been charged £1,000 under Scottish Water's standard published charges.

Step 1. Calculate the discount for the base year.

$$d_0 = \frac{(U_0 - C_0)}{U_0}$$

$$d_0 = \frac{(\pounds 1,000 - \pounds 500)}{\pounds 1,000}$$

$$d_0 = 50\%$$

Step 2. Calculate the annual growth rate.

$$r = \sqrt[3]{\frac{1}{(1 - d_0)}} - 1$$

$$r = \sqrt[3]{\frac{1}{(1 - 50\%)}} - 1$$

$$r = 1.26 - 1$$

² According to the tariffs published for the year in question.

$$r = 26\%$$

Table 1 shows the remaining steps of the calculation for each year of phasing.

Table 1 — phasing of capped trade effluent arrangements³

Year	base year $i = 0$	2008-09 $i = 1$	2009-10 $i = 2$	2010-11 $i = 3$
Notional uncapped charge U_i	$U_0 = \text{£}1,000$	$U_1 = \text{£}1,000$	$U_2 = \text{£}1,000$	$U_3 = \text{£}1,000$
Step 3 Notional capped charge $C_i = C_0(1+r)^i$ (when $i > 0$)	$C_0 = \text{£}500$	$C_1 = \text{£}500 \times (1.26)^1 = \text{£}629$	$C_2 = \text{£}500 \times (1.26)^2 = \text{£}794$	$C_3 = \text{£}500 \times (1.26)^3 = \text{£}1,000$
Step 4 Discount $d_i = \frac{(U_0 - C_i)}{U_0}$	$d_0 = 50\%$	$d_1 = \frac{(\text{£}1,000 - \text{£}629)}{\text{£}1,000} = 37\%$	$d_2 = \frac{(\text{£}1,000 - \text{£}794)}{\text{£}1,000} = 21\%$	$d_3 = \frac{(\text{£}1,000 - \text{£}1,000)}{\text{£}1,000} = 0\%$

Process

The Commission will calculate the discount d_i for each customer affected by trade effluent capping arrangements, based on data supplied by Business Stream. The Central Market Agency (CMA) will then apply the appropriate discount to the wholesale charges it calculates for trade effluent services.

The discounts will not be affected by any review by Scottish Water of a customer's trade effluent consent. A change to either a consent or operating performance would be reflected in the customer's availability charge or operating charge parameters, which are taken into account when calculating wholesale charges according to the published charges scheme.

Special cases

Several customers had discounts of 10 pence or less (at a retail level) in the base year. Phasing will not apply to these customers: they will revert to standard published charges, with their caps removed, from 2008-09.

³ Some rounding errors may appear.

Some customers have benefited from a cap in 2007-08 but not in 2006-07. These customers will also participate in the phasing programme. Their base year will be the period for which they have received bills from Business Stream between 1 April 2007 and 31 December 2007. Phasing will apply in the same years, so that all capped customers pay the full published charge in 2010-11.

A small number of customers are relieved of part of the trade effluent charge because secondary treatment is not provided for them (see section 5.4.1 of Scottish Water's wholesale charges scheme). Some of these customers may also be subject to a trade effluent capping arrangement. In the calculations above, the uncapped wholesale charge for these customers excludes the charge for secondary treatment.

As mentioned in the Commission's December 2006 policy statement, these customers may face large increases in their bills in the future when secondary treatment is introduced at the relevant wastewater treatment works. For these customers, the mechanism described above will be used to move their charges on to the new rate over four years (including an initial grace year).