

# Annual Performance Report Methodology 2016–17

# Contents

3	<b>Introduction</b>
5	<b>Allocation process</b>
7	<b>Allocation methods</b>
14	<b>Retail services</b>
16	<b>Fixed assets</b>
20	<b>Revenue reporting</b>

# Introduction

**This document sets out the methodology adopted by Southern Water Services for the production, as required under RAG 3.09, of the operating cost, revenue and fixed asset disclosure within the Annual Performance Report (APR).**

## Background to the business

Southern Water supplies drinking water to 2.5 million people and safely recycles the wastewater of more than 4.6 million people in Sussex, Kent, Hampshire and the Isle of Wight.

The organisational structure of the company for 2016–17 is shown in the diagram below.

## Operations

The operations team is the largest part of the business and consists of three distinct elements:

### Water

The water function is responsible for the abstraction, treatment and distribution of water to customers. The water network consists of 91 water treatment works and approximately 13,800 kilometres of distribution pipes.

### Wastewater

The wastewater function is responsible for the collection of wastewater from customers and the highway and its transportation to wastewater treatment works (WTWs) and sludge treatment centres (STCs) where the waste is removed and the water returned to the environment. The wastewater network consists of 365 WTWs, 16 STCs and approximately 39,600 kilometres of sewers.

## Operations support

Operations support consists of a number of teams which serve both the water and wastewater functions, these include: the energy team, dispatchers, contract management, security and transport.

Within operations, a number of activities have been outsourced to onshore contractors. These include any significant plant repair activity, new distribution mains and network repairs as well as all sewer repair and maintenance work.

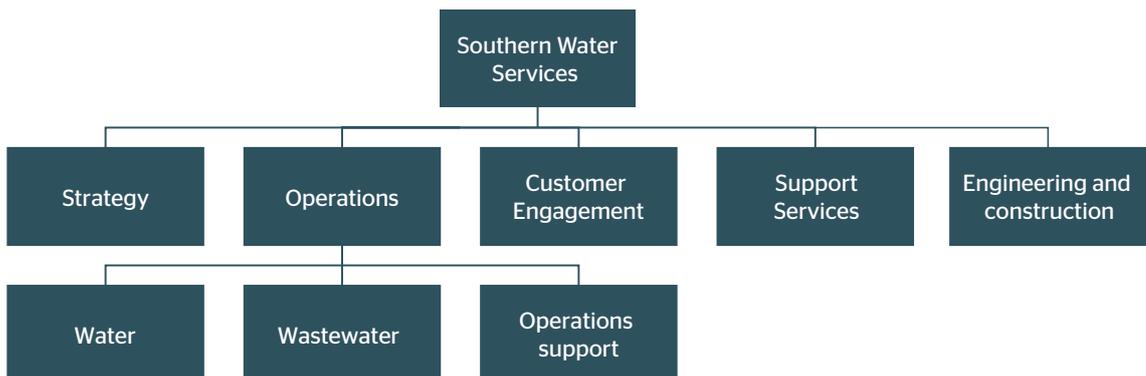
Within our scientific services team, sample collection has been brought in-house this year (having previously been outsourced). Sample testing continues to be provided by contractors.

All tankering, skip and waste disposal activities involving transportation are carried out by a contractor, as are numerous service contracts for instruments and equipment maintenance. Property and ground maintenance activities are also managed in this way.

## Customer engagement

The customer engagement team is responsible for handling customer enquiries and all aspects of billing and cash collection. The function consists of a service centre (aiming to solve customers' issues quickly and to their satisfaction), billing services (ensuring bills issued are accurate and on time), field services (installing and reading meters as well as other face-to-face activities) as well as support and strategic teams looking to improve the customer experience.

Meter installation and reading (onshore) and supporting customer written enquiries (offshore) are undertaken by external contractors.



We do not outsource billing activities and where collection activities are undertaken on our behalf, the bad debt risk associated with this activity is not transferred to the third party.

Capita continue to operate our call handling activities.

### Strategy

The strategy department monitors the operational and environmental performance of our water and wastewater assets. This information is then used, along with our regulatory and environmental obligations, to develop our capital investment strategy. Data management and reporting is outsourced via an offshore contractor.

### Engineering and construction

The engineering and construction department undertakes the design and delivery of our capital investment programme. It also provides connection services to developers.

### Support services

The support services of the business ensure that the teams within operations, customer engagement, strategy and engineering and construction can function successfully. These are detailed in the general and support allocation section later in this document.

A number of activities within support services are undertaken by external contractors. Property and grounds maintenance is carried out onshore, while the IT and HR helpdesks, purchase ledger and some finance activities, as well as numerous service contracts, are carried out offshore.

### Movements from 2015–16

Details of the significant changes in costs and allocations from 2015–16 are described below:

#### Water

Operating expenditure for the water service increased by £16.4 million to £77.7 million (2016: £61.3 million). During 2015–16 we received a one-off rebate of historic rates charges of £13.3 million and this is the principal reason for the increase in operating expenditure. In addition to this and the impact of inflation of £1.6 million, there was an increase in distribution costs resulting from additional permit fees, for work on the highways, of £0.7 million and additional costs incurred of £0.9 million to help find and fix leaks from the water network.

A change in the allocation method for power (detailed in the allocations methods section) has moved costs from treated water distribution to water treatment.

#### Wastewater

Operating expenditure for the wastewater service decreased by £3.4 million to £143.9 million (2016: £147.3 million). This decrease results from a number of initiatives to reduce power consumption, in particular at peak times and improve operational processes, such as chemical usage, waste disposal costs and tankering requirements. In addition we have looked at more efficient ways to use our own teams to undertake repairs, reducing contractor costs. Overall the process and power efficiencies reduced costs by £6.4 million. Further savings of £1.4 million were made through the renegotiation of certain contracts and the impact of lower groundwater £0.8 million. These savings were offset by the impact of inflation £3.1 million and a fine of £2.0 million which resulted from a prosecution for pollution incidents which occurred at Margate in 2012 and 2014.

For the wastewater service there has also been a change in the power process (detailed in the allocations methods section). Previously any benefits of electricity produced on site were shared by both the sewage and sludge treatment business units, now all benefits reside in sludge treatment.

#### Retail

Retail operating expenditure increased by £5.1 million to £80.4 million (2016: £75.3 million). This increase mainly results from an increase in debt management costs of £4.3 million as a result of proactive measures to collect outstanding debt from customers, and to support those customers with financial difficulties. There has also been an increase in the bad debt charge of £1.6 million due to customers who have moved out of our supply area and customers who continue to default on payment after going through the full end-to-end collection process. These increases were offset by a reduction in meter reading costs of £0.5 million.



## Cost allocation principles

Costs have been allocated following the six principles found in RAG 4.06 (detailed below):

**Transparency** – the attribution methods applied need to be transparent. This requires that the costs and revenues apportioned to each service and business unit should be clearly identifiable. The cost and revenue drivers used should also be clearly explained to enable a review of their appropriateness.

**Causality** – cost causality requires that costs (and revenues) are allocated to those activities and services that cause the cost (or revenue) to be incurred. This requires that the attribution of costs and revenues to activities and services should be performed at as granular a level as possible.

**Non-discrimination** – the attribution of costs and revenues should not favour any business unit within the regulated company and it should be possible to demonstrate that internal transfer charges are consistent with the prices charged to external third parties.

**No cross subsidy between price controls** – there should be no transfer of costs between the price control units, in the setting of prices and preparing the accounts. This will ensure all revenue and related costs are aligned to the appropriate price control unit. As such, any transfer prices between price control units will be at market value unless it relates to internal services, in which case cost will be used.

**Objectivity** – the cost and revenue attribution criteria need to be objective and should not intend to benefit any business unit or service.

**Consistency** – the cost and revenue attribution criteria should be consistent from year to year to enable meaningful comparison of information over time. Changes to the attribution methodology from year to year should be clearly justified and documented.

## Application of cost allocation principles

To ensure transparency, this methodology statement sets out the drivers and allocation methods used within our reporting process. Each of these is separately identifiable within the spreadsheets and databases used to produce the APR information required.

Wherever possible, costs relating to a specific business unit have been coded to that business unit or subsequently directly attributed to it.

Where the costs relate to activities that straddle business units, such as in relation to mobile operatives who cover a particular geographic area or the costs of support functions, the relevant cost driver has been established and the most appropriate allocation method applied. These are described in the allocation methods section on page 7.

Additional management information was obtained from relevant business functions where this was required for adjustment or allocation purposes. Further detail is provided when explaining the allocation methods used.

The allocation methods we have used are kept as consistent as possible with the prior year. Any changes to the allocation methods are detailed in this document.

The production of the regulatory accounting activity costing information has been overseen by a small team of senior managers from the finance, regulation, operations and customer engagement areas. In addition to agreeing the overall process and key mapping documents, the team reviewed the options for all the main allocations and approved the final methods selected, to ensure they are reasonable and comply with the Ofwat guidance and principles.

# Allocation methods

The following are the main methods used to allocate water and sewerage service costs that were not able to be coded or directly attributed to a specific business unit. Where the allocation method has changed significantly from the previous year's methodology an explanation of the change has been provided.

Many of the allocations use Southern Waters' Full Time Equivalent (FTE) staff numbers in order to get a sufficient level of granularity

when allocating to price control units and business units. This FTE has been based on the year-end headcount. Since timesheets are not widely available, FTE has been regarded as the most appropriate approach.

The table below shows the business units and the principal costs directly attributable and allocated to them.

Business Unit	Primary Direct Costs	Primary Allocations
Abstraction licence	The licence from the Environment Agency	Other business activities
Raw water abstraction	The costs of surface water and underground sources and transporting the raw water to the water supply works	Mobile operators Other business activities Support services Water power split
Raw water transport	N/A	Other business activities
Raw water storage	The costs related to Eccles Lake	
Water treatment	The costs of water supply works. These include chemicals, materials, contractors and power	Control centre Mobile operators Power (primarily carbon reduction commitment) Scientific services Support services Water power split
Treated water distribution	Water booster stations and water service reservoirs as well as labour and contractor expenses involving inspection, co-ordination and management, as well as repair and maintenance of the network	Highway liaison Insurance Mobile operators Scientific services Support services Water power split
Sewage collection (foul, surface water drainage, highway drainage)	All sewer and pumping station costs, as well as discharge consents. These include all contractor costs to repair and maintain the network, chemicals and power	Developer services Mobile operators Power (primarily carbon reduction commitment) Property and grounds maintenance Support services
Sewage treatment	The costs of all pre-thickening wastewater treatment works are directly coded ahead of the sewage/sludge split (see page 9). These include discharge consents, chemicals, materials, contractors and power	Control centre Liquor treatment Mobile operators Operational contracts Property and grounds maintenance Scientific services Sewage/sludge split Support services
Liquor treatment	N/A	Liquor treatment
Sludge treatment	Sludge treatment centre costs such as chemicals, materials, contractors maintenance and repair	Insurance Mobile operators Operational contracts Power (primarily carbon reduction commitment) Sewage/sludge split for shared costs at co-located works Support services
Sludge transport	Tankering of costs from pre-thickening sites to those with sludge treatment capabilities	Other business activities
Sludge disposal	Transport of cake and granules to farm or landfill	Other business activities

A more detailed description of each allocation method is provided below.

### Mobile operational teams

#### Description

Certain operational and maintenance activities are carried out by employees who are not site-based, but instead form mobile teams. These mobile teams generally work specifically on water or wastewater assets and so are directly coded to the relevant price control. They do, however, work on a variety of different asset types, covering different business units across multiple locations in a geographical area. Therefore, their costs require allocation for business unit reporting.

#### Allocation method

Time spent on activities is electronically recorded by these mobile employees using hand-held devices and uploaded via the works management system into SAP. The time spent by each team on activities related to each business unit is collated and the cost allocated accordingly.

The costs allocated primarily relate to employment costs, but also include vehicles, tools, protective clothing and mobile phones.

### Local authority rates

#### Description

Local authority rates refer to the business rates charges for the buildings at each wastewater site and the cumulo rates charges in respect of the water function.

#### Allocation method

The costs have been split differently between the business units depending on which service they belong to.

Cumulo rates costs have been split based upon historic gross modern equivalent asset value (GMEAV) for the relevant water sites. Each site type has been aligned to a business unit and the total value has then been used to apportion the charge.

Wastewater sites receive individual charges based on their rateable value (RV). This enables the costs to be allocated to specific business units based on the activities at a site. In general this is sewage treatment with an element at some sites being subsequently allocated to liquor treatment, as described later in this document.

We have a number of co-located sewage and sludge treatment sites. The RV associated with the sludge treatment assets has been identified in order to split the costs between sewage and sludge treatment.

### Management and mechanical, electrical, instrumentation, controls and automation administration (MEICA)

#### Description

There are a number of technical operational teams providing support to the wholesale service, such as delivery and investigation engineers, workshops, technical support teams and their management.

#### Allocation method

There are a number of allocation methods, dependent on the nature of the activities undertaken by the team.

The costs associated with the delivery engineers have been allocated based on the plant repair jobs undertaken by contractors. Previously, this has been allocated in proportion to the direct cost incurred in each business unit.

The certification team collects sewage data and so this cost has been fully allocated to the sewage treatment business unit.

The ICA technical support team is allocated using the mobile round method detailed above.

Management costs have been apportioned out to each of the teams based on their percentage of total cost.

### Operational support and control centre

#### Description

Operational support relates to the provision of management support to both water and wastewater wholesale services, including the systems, reporting, central purchasing and change teams. The control centre includes the security, quantity surveyor, duty manager and other out-of-hours teams.

#### Allocation method

Costs have been split based on FTE.

## Sewage/sludge split

### Description

Sewage arriving at wastewater treatment works (WTW) is treated and the water element returned to a watercourse. The sludge element is then transported to a sludge treatment centre (STC) for treatment. All STCs are co-located with WTWs, so sewage and sludge costs have to be separated and allocated to the relevant business unit.

### Allocation method

These co-located sites have been classified into the following types:

- *Indigenous cake*
- *Intermediate STC*
- *STC*

The STCs themselves have their own cost centre, separate from the WTW, and these provide a direct split for some site-specific costs that are not detailed below. Indigenous cake and intermediate STC sites are allocated 10% to sludge treatment, based on an estimate of activities on-site. All other sites are classified as pre-thickening, and no allocation to sludge treatment made.

Any tankering from WTWs to sludge treatment sites has been directly coded to sludge transport.

The majority of chemical expenditure is allocated to the sewage treatment business unit with the exception of costs relating to polyelectrolyte, antifoam and lime, which are allocated to sludge treatment.

As there is only a single electricity meter at each co-located site, the power costs have been split using the power ratings of the sewage and sludge assets on site.

Any sales produced by Combined Heat and Power (CHP) units are included in sludge treatment as income treated as negative expenditure. In a change for 2016–17, all power produced by the sludge treatment service and used by the sewage treatment service has been credited to the sludge treatment business unit. Previously this was split based on the power ratings split detailed above.

Any sludge tankered in from water supply works (WSWs) and treated at an STC has been allocated to water treatment, based on a sludge treatment unit cost rate.

## Sewage collection split

### Description

For reporting purposes we are required to split sewage collection costs into three business units: foul, surface water drainage and highway drainage. The wastewater from all three of these sources is received into the treatment works through one sewer system.

### Allocation method

In order to derive an allocation method for these costs a model has been generated by experts in the business based on historic wastewater volumes. The model compares the amount of treated water distributed, with the amount of water received at the WTW. The volume of water discharged to the sewer by customers is generally estimated at 92.5 per cent of input. Using certification data (detailing the volume of water arriving at the inlet of the works) we can use this to derive the surface water and highway drainage element.

A sample analysis of road and roof areas that run off into our sewers has led us to believe the split between surface water and highway drainage volumes is approximately 50:50.

Further adjustments have been made to take account of costs such as jet-washing, private sewers and surface water pumping stations, which can be directly allocated.

## Other business activities/strategy

### Description

Other business costs relate to the costs of complying with our regulators, including the regulation team and any licences required.

### Allocation method

The allocation between business units follows RAG 2.06 guidance, in which retail attracts 1/9th of the total cost with the remaining 8/9ths being split evenly between water and wastewater.

The remaining costs have been split between wholesale with 1/9th being apportioned to each historical business unit.

## Third party costs

### Description

The third-party costs are apportioned from the other lines of the table, and are mainly associated with an Esso facility in Hampshire and bulk supply agreements with South East Water in Kent.

### Allocation method

The costs of the relevant sites are calculated and an element is allocated to third party costs based on water volumes.

## Power

### Description

All power costs are coded to the relevant site, however there are a number of sites where activities straddle more than one business unit and an allocation is required. Wastewater has already been discussed under the sewage/sludge split above.

### Allocation method

With water service sites there could be a single meter abstracting the water, treating it, and then pumping it into the distribution network. The abstraction cost is calculated using pumping head data (previously reported in Table 12 of the June Return). The remaining charge is split between water treatment and treated water distribution based on the power ratings of assets based on site, with all high lift pumps classified as treated water distribution. This is a change for 2016-17, where previously an estimate was used.

The carbon reduction commitment charge is allocated out proportionately, based on electricity and gas usage within the relevant business units.

The power costs relating to the sludge pipeline from Slowhill Copse pre-thickening site to Millbrook STC have been allocated to sludge transport.

## Non-appointed

### Description

Non-appointed activities are those the company engages in which are not within the scope of the regulated activity.

The principal activities are: land search, Homeserve insurance, letting and tankering.

### Allocation method

Each non-appointed revenue stream has its own cost centre, which is excluded from the regulatory accounting calculations. There are a small number of non-appointed direct employees, and so these receive an allocation of any support services (e.g. Finance, HR) using an FTE allocation.

Calculations for the commercial and cess cost of tankering waste have been performed by business experts and appropriately transferred out of sewage and sludge treatment.

## Support services

The table below breaks down the 2016–17 charge by support service:

Support service	Wholesale allocation (£m)	Retail allocation (£m)
Communications	0.3	0.1
Directors	2.8	1.3
Finance	1.7	0.7
HR	3.2	1.0
IT	9.5	3.0
Legal	1.3	0.3
Procurement	0.7	0.2

### Description

The departments listed above provide support and management across all business units.

### Allocation method

Each director's cost was split based on their directorate's allocation (e.g. the CFO cost is allocated based on the finance team split). The CEO and non-executive directors were allocated based on the subsequent average split after all other teams had been allocated.

For the other teams detailed in the table above a list of employees was extracted from the SAP system. This was then reviewed with key management to identify the FTE split between wholesale, retail or support activities for each individual. Where individuals could easily be identified as solely performing within a business unit this was taken into account. For example, in finance this could be determined by the team or role an individual held for some members of the function, while in procurement and communications this was driven by the projects worked on.

Once the allocation to the price control units was completed, the costs were then further apportioned to business units based on the total Southern Water FTE.

### Wholesale assets

#### Description

This relates to a number of staff who monitor and report on asset performance.

#### Allocation method

Any asset team-related costs that cannot be directly allocated have been split based on FTE.

### Developer services

#### Description

Developer services deal with the administration and site inspections relating to any application to develop land for construction or where buildings require further amendments to the water supply.

#### Allocation method

As per RAG 2.06, all costs relating to administration and information for the purpose of a new connection have been allocated to retail.

There are clear roles amongst the teams, therefore, allocation between wholesale and retail price control units has been based upon FTE, with each individual's costs being clearly identified and aligned.

Due to the nature of the wholesale activity, the majority of these costs have been capitalised. The remaining costs have been split between business units based upon the applications made to developer services through the year.

### Dispatchers

#### Description

The dispatchers send the mobile operational team employees out to the various jobs at the sites required. Their work can be split in to three types: schedulers, controllers and planners.

#### Allocation method

While no timesheets are kept, the teams are split between four categories: wastewater above and below ground and water above and below ground. These teams are allocated to the business units based on FTE.

### Facilities

#### Description

The facilities team primarily looks after the Durrington and Falmer offices, but is also involved with those at Otterbourne and Chatham, as well as some operational sites.

#### Allocation method

The sites Otterbourne, Chatham, Horsham and Hastings relate solely to wholesale activities and therefore will have all costs allocated accordingly.

The floor schematics for both the Durrington and Falmer sites have been analysed to determine how much space is used by different departments. The space has been used to determine a percentage split between retail, wholesale and support services.

With the costs allocated to the services detailed above, these have then been further broken down based on the Southern Water FTE.

### Highway liaison

#### Description

The Highway Liaison team deals with road closures required to maintain the water and sewerage network.

#### Allocation method

The work management system is used to determine how many jobs are related to the distribution network and how many to sewage collection.

## Insurance

### Description

Insurance costs can be broken down into both premiums and claims/losses.

### Allocation method

Insurance premiums are comprised of a number of different items, with the most relevant allocation method used for each:

- *Employee related (liability/motor/pension) – allocated based on Southern Water FTE.*
- *Public, property and terrorism related – the asset values stated to determine the insurance charge. The assets are broken down by activity within the value schedule and so align to business units.*
- *Claims and losses – the claims history and the type of claim, whether it is due to works on the distribution network or flooding.*

Other (e.g. brokerage fees) – pro-rated based on allocations detailed above.

## Liquor treatment

### Description

Liquors are a by-product of the sludge treatment process, that are then piped back to the inlet of the WTW for treatment.

### Allocation method

A calculation has been performed involving the various sludge flows in a day. The concentration of the sludge in terms of biological and chemical oxygen demand (BOD/COD) milligrams per litre has been used to create a percentage for each site where liquor treatment occurs. This percentage is the higher of BOD and COD, although both come out at very similar values. This is then applied against the sewage treatment costs for that site to calculate the liquor treatment costs.

## Market reform

### Description

The market reform project planned and implemented the change on 1st April 2017, when the non-household market opened up to competition.

### Allocation method

All costs are directly coded to either wholesale or retail price control units at source except for a small amount of support costs.

Given that market reform impacts many areas of the business, the price control and support costs will be split using the Southern Water FTE in order to allocate these costs between the business units.

## Operational contracts

### Description

A number of asset service and maintenance contracts are held, principally for wastewater sites.

### Allocation method

In order to allocate the monthly contract fee a breakdown of all contracts has been assessed with the budget owner. A split between water, sewage and sludge has been determined based on the level of activity each contract covers in each business unit. This split will then be applied to all costs identified arising from operational contracts in order to apportion all costs.

## Property and grounds maintenance

### Description

The maintenance of properties and grounds is managed by third parties. There are expected schedules of work available for these grounds.

### Allocation method

The detailed plans for all planned and reactive maintenance jobs have been analysed on a site-by-site basis to determine where the work is operational or capital in nature. The costs for each activity performed on site have then been aligned to the relevant business unit on a similar basis to all other allocations (i.e. WTWs taken to sewage treatment).

The reactive work is extracted from SAP (where it has been directly coded) and attributed to the relevant business units.

## Scientific services

### Description

Scientific services involves the testing of water and wastewater from samples collected. The sampling is performed on various operational sites, developer sites and customer houses.

### Allocation method

The allocation has been based on the total samples tested during the year. Each of the sampling activities has been allocated to a business unit. The total costs for scientific services have then been split based on this business unit analysis.

## Transformation

### Description

The transformation team co-ordinates and manages the change programme.

### Allocation method

The allocation between price control units wholesale or retail has been based upon the type of projects coded to transformation cost centres. Where identification of a specific price control unit is not possible a management estimate has been provided based on the nature of the work undertaken.

The allocation from the price control unit costs to business units has then been based on the Southern Water FTE, given that transformation cuts across the whole business.

## Transport

### Description

The transport team manage all vehicles in Southern Water. These costs are held within the individual budget in each department and as such are already directly allocated. However, the transport management team requires allocation.

### Allocation method

The transport management team is allocated based on vehicle cost across the company.

## Water efficiency

### Description

Water efficiency is a team within strategy focused on helping households and schools to use less water by increasing water efficiency.

### Allocation method

A split between the price control units, retail and wholesale, has been established for each of the teams' FTE based on a management estimate.

The activities conducted by the team have been systematically allocated based on management knowledge and judgment. Many can be directly attributed to the wholesale or retail functions (such as fitting households with water-saving products, which is a retail activity). If it is not possible to allocate the costs directly, for example school partnerships, a split based on a management estimate has been made between the services.

Wholesale costs have been split equally between raw water abstraction, treatment and distribution, with any efficiencies primarily impacting these business units.

# Retail services

## Allocations to retail cost lines

Costs relating to a specific retail cost types have been allocated directly to that category where possible. Where the costs span a number of different activities, a relevant cost driver has been established upon which the costs have then been allocated.

## Household and non-household allocations and customer type allocations

Once costs have been allocated to the retail cost lines they are then allocated between household (HH) and non-household (NHH).

Where costs cannot be directly attributed they have been allocated in accordance with RAG 2.06 as far as possible. The allocation methods used are summarised in the table on page 15. Where the RAG 2.06 cost driver was not available customer numbers have been used. Customer numbers are Ofwat weighted customer numbers, whereby dual service customers are multiplied by 1.3.

The method of allocation of different cost categories across the customer type is also shown in the table on page 15.

Customer Engagement costs		
Cost area	Summary of allocation to cost line	Method of allocation
Customer resolution	Customer services 100%	Nature of work undertaken
Contact centre		
Customer correspondence		
Commercial collections	Debt management 100%	Nature of work undertaken
Court payments		
Domestic collections		
Charitable trust donations	Customer services 100%	Nature of cost
Vulnerable customer schemes		
Postage and printing	Customer services 86% Debt management 14%	Nature of work undertaken
Billing production	Customer services 86% Debt management 5% Metering 5% Non-Retail activities 4%	Nature of work undertaken
Key accounts	Customer Services 70% Debt Management 30%	
Meter reading (excluding disconnections)	Meter reading 100%	
Water company costs		
Revenue support	Customer services 55% Debt management 27% Meter reading 18%	Resources cover all areas of customer engagement and have been allocated to all cost lines
Continuous improvement		
Analytics		
Customer experience		
Governance		
Customer insight		
Doubtful debt	Doubtful debt 100%	Nature of cost

Line item	Cost	Method of allocation to Household/Non-household	Method of allocation to customer type
Customer services	Billing	Number of bills raised	Number of bills raised
	Payment handling, remittance and cash handling	Number of payments received	Number of payments received
	Charitable trust donations	All household	Customer numbers
	Vulnerable customer schemes		Number of customers in vulnerable customer schemes
	Non-network customer services	Volume of non-network customer enquiries and complaints	Volume of non-network customer enquiries and complaints
	Network customer services		Customer numbers
	Investigatory visits	N/A	N/A
	Other customer services		
Debt management	Debt management	Directly attributed	By debt outstanding for more than 30 days
Meter reading	Meter reading	Number of meter reads	Number of meter reads
Other operating expenditure	Demand-side water efficiency initiatives	Customer numbers	Customer numbers
	Customer side leaks	All household	Split into measured and unmeasured from business data, allocated further into service type by customer numbers
	Other direct costs	Customer numbers	Customer numbers
	General and support – IT		
	General and support – motor vehicles		
	General and support – finance, HR, payroll, general management		
	Executive/non-executive directors' remuneration		
	General and support – facilities		
	General and support – insurance		
	Other general and support costs		
	Other business activities (regulation costs)		
Local Authority rates			
Third party services	Third party services		
Depreciation	Depreciation	All household	Customer numbers
Bad debt charge	Bad debt	Directly attributed	HH debt split between six customer types based on same percentage as revenue split

# Fixed assets

## Process overview – fixed assets

In order to produce the regulatory fixed asset and capital expenditure information, financial and management information is extracted from the finance system, SAP, using a number of system reports. This information is saved as spreadsheets for analysis and reporting and is also imported into an access database for the regulatory fixed asset analysis.

All subsequent steps in the production of the regulatory tables are carried out offline using spreadsheet and database functionality. These information sources provide sufficient information to directly allocate costs to the business units and price controls within the regulatory tables.

The regulatory reporting databases allow analyses of capital expenditure movements in the year for tables 4D and 4E along with historic valuation information for table 2D. Assets are sorted by asset groups within the databases, which define both the business unit and expenditure purpose in order to complete the regulatory tables.

Capital expenditure incurred during the year, disposal details and information on fully depreciated assets is extracted from the company's SAP accounting system. The additions, disposals and net book data are therefore consistent with those reported in the statutory accounts. Data is imported into the databases where it is analysed as follows:

### Process for producing table 2D (Historic cost analysis of fixed assets)

The base data for this table is consistent with the statutory accounts fixed assets valuations and depreciation charge. As required by RAG 1.07, interest, capitalised in the statutory accounts, is excluded from the extract from SAP for regulatory reporting. In addition to this we have separately identified intangible assets and removed the value of these to comply with requirements for tangible-only.

The majority of assets can be assigned directly to a specific price control. Where an asset is shared, for example a corporate asset, it is assigned to the price control of principal use. We have used our largest price control, wholesale wastewater, as our default

for assigning corporate assets and retail household for any retail-only assets.

A list of our assets is extracted from SAP showing the depreciation in the year, the net book value and the accumulated depreciation. This data includes the business unit information. A series of queries then combines the data to summarise the net book value, depreciation in the year and the accumulated depreciation by business unit.

The analysis of additions in the year is described below for tables 4D and 4E and summarised by price control. The same process is followed for disposals. These values reconcile back to the statutory accounts totals.

### Process for producing capital elements of table 2A (Segmental income statement)

The depreciation included within operating costs contains the depreciation charge analysed by price control from table 2D as described above. Recharges are then required for the shared assets allocated to the price control of principal use.

The costs which cannot be allocated to a single service are split into those that relate to wholesale only (not specifically water or wastewater), those that relate to retail only (not specifically household or non-household) and those of benefit to wholesale and retail.

The depreciation charge in the year attributable to wholesale-only assets is allocated between water and wastewater based on the wholesale headcount. This allocation uses the same data as used for allocating operating expenditure.

The depreciation charge in the year attributable to retail-only assets is allocated between household and non-household based on customer numbers and headcount.

The depreciation charge in the year attributable to wholesale and retail is made using headcount percentages that includes wholesale and retail staff. The resultant calculated recharge for retail is split into household and non-household based on customer numbers and headcount.

### Process for producing capital elements of table 4D and 4E (Wholesale totex analysis)

The base data for additions is the same as for the Statutory Accounts. Expenditure, including accruals, is extracted from SAP and listed by scheme.

As part of our capital expenditure approval process, we maintain a database in which we assign the Quality, Base, Enhanced service levels and Growth (QBEG) purpose allocation for each scheme. When combined with the expenditure this provides the information required to complete tables 4D and 4E.

The allocation to QBEG is based on definitions provided in RAG 2.06 and RAG 4.06 and an analysis of the design of each scheme. From this the percentage, by category, is assigned to each scheme and stored in the database for application to the expenditure when it is incurred.

When a scheme is approved it is also analysed and assigned to the appropriate business unit(s). These business units are held against each scheme in SAP when the scheme is created. We have facility for a primary business unit and secondary units where a scheme has elements that fall into more than one business unit. Further details of some of the specific assets in each business unit, and any changes made in the year, are given in the sections below.

The same process applies to the disposals.

Details of the nature of the assets in each business unit as well as some of the specific assets in each business unit are given below.

### Water service

#### Abstraction licence

The water strategy manager confirmed that all costs associated with the negotiation and agreement of abstraction licences are treated as operational. There are no assets in this business unit and it remains unchanged from the previous year.

#### Raw water abstraction

All Southern Water's impounding reservoirs with abstraction licences associated with them are recorded as raw water abstraction. Bankside storage assets are allocated to raw water storage.

Expenditure incurred during the year on assets associated with river intakes, borehole sources and impounding reservoirs is allocated to this business unit. The business unit remains unchanged from the previous year.

The impounding reservoirs included in raw water abstraction are:

Reservoir	Volume (MI)
Bowl Water	31,000
Darwell	4,730
Powdermill	1,060
Weir Wood	5,600
Testwood Lakes	400
Sandown	1
River Arun	75

Also included here is the raw water transfer main between the impounding reservoirs Bowl and Darwell.

Abstraction point	Discharge	Length (km)
Bowl (twin main)	Darwell	2 x 16.8

### Raw water transport and raw water storage

Raw water storage assets are bankside storage. Eccles Lake is the only significant asset in this category.

Bankside Storage	Volume (MI)
Eccles Lake	545

Raw water transport assets are mains to the reservoirs and pumps and mains from a reservoir to a treatment facility.

## Water treatment

This business unit contains our water treatment works and remains unchanged from the previous year. Assets included are as per RAG 4.06 guidelines.

Expenditure incurred in the year is allocated based upon the specific details of schemes.

## Treated water distribution

This business unit essentially remains unchanged.

The network can be divided between trunk and local as shown in the approximate proportions shown in the table below:

Description	Length (km)
Trunk	12,000
Local	2,000

Expenditure incurred in the year is allocated based upon the specific details of schemes.

## Sewerage service

### Sewage collection

In order to split the sewage collection costs and assets between foul, surface water drainage and highway drainage we have undertaken some analysis, described below, of the volumes of wastewater received at treatment works.

A model has been generated by business subject matter experts, using historic wastewater volumes, in order to compare the amount of treated water distributed, against the amount of water taken in as sewage. In general the percentage of treated water returning to the sewer is estimated to be 92.5% of the volume supplied. Therefore, 92.5% of the water distributed has been deducted from the amount of wastewater received into sewage treatment works. This, as well as other adjustments for occurrences such as leakage and pipe filtration, is then used to derive the volume of surface water and highway drainage. The model has then been applied to this year's costs in order to get the current year split and the historic fair value of our sewerage network.

The sewerage network is allocated to the contributing components for both historic assets and additions in the year as shown in the table below:

Sewer type	Percentage
Foul	70%
Surface	15%
Highway	15%

The sewerage network consists of approximately 23,000 kilometres of gravity sewers, rising mains and tunnels; their approximate lengths are shown in the table below:

Description	Length (km)
Gravity sewers	21,500
Rising main	1,500
Tunnels	48

The business unit includes the following significant tunnel assets:

Description	Volume (m)
Fort Cumberland Road Eastney	40
Coombs Hastings	52
Portobello Brighton	147

### **Sewage treatment and disposal**

This business unit contains our wastewater treatment works and remains unchanged from the previous year. Expenditure for the year has been allocated based on scheme-specific information.

This business unit includes sludge holding bays and thickening plant on sites not co-located with STCs.

### **Sludge treatment**

This business unit contains our sludge treatment centres and remains unchanged from the previous year. Expenditure incurred in the year is allocated based upon specifics of schemes.

Sludge holding bays and thickening plant at co-located sites are recorded in this business unit.

### **Liquor treatment**

Applying the principle of assets being recorded in the business unit of principal use, most of the assets applicable to this business unit are recorded under sewage treatment.

### **Sludge transport**

This business unit contains a small number of sludge pipeline assets and remains unchanged from the previous year. Any expenditure for the year has been allocated based on scheme-specific information.

### **Sludge disposal**

There are no assets in this business unit.

### **Management and general**

For 2016–17, the management and general cost with shared benefit amounted to £15.1 million out of a total of £332.7 million asset additions (excluding interest). These have been assigned to the wastewater treatment business unit as the unit of principal use. Recharges for the use of these assets by other business units are reflected in Table 2A

### **Retail**

Retail assets largely consist of major IT systems for billing and telephony. The split between household and non-household is consistent with previous years based on historic customer numbers and headcount. This basis is used to allocate between household and non-household for the relevant tables.

### **Asset records**

Detailed information about the company's physical assets is held in two major corporate systems. One keeps details of our above-ground assets and the other about our below-ground assets. These systems are used primarily to schedule maintenance or replacement. Neither system holds information about the cost or value of each described asset.

Historic cost information and depreciation calculations for statutory accounting purposes are held in the company's finance system (SAP). This system holds information about schemes completed in the past and collects current expenditure information. Schemes are not to be confused with physical assets and any one scheme can affect more than one asset or only a part of an asset. Historic depreciation is calculated in the system on a straight-line basis. This data is used as the basis for the fixed asset information shown in the Annual Performance Report.

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# Revenue reporting

## Unmeasured revenue

Unmeasured household and non-household revenue comprises customers on both rateable value charges and assessed charges. This revenue has been split into the relevant customer groups and price controls directly from our SAP ISU billing system.

The data held in the billing system is at a level which allows for the identification of revenue type (retail, wholesale water and wholesale wastewater) and service type (water-only, wastewater-only or water and wastewater) using the coding associated with every customer bill transacted.

## Measured revenue

Measured revenue has been split into the relevant customer groups and price controls based on the rate categories of actual billing from our SAP ISU billing system, as described above for our unmeasured customers.

In addition, measured revenue contains an estimate for unbilled revenue which is generated from the billing system but includes management adjustments. The unbilled revenue is analysed using the following information:

1. The unbilled revenue report from the system details revenue split by customer group and price control, on the same basis as the billing system, and so this is split in the same way as our billing.
2. Where the value of an accrual adjustment has not been sourced directly from the billing system, the allocation of price controls has been based on the same ratio as actual billing in 2016–17.

## Other revenue

All other revenue is sourced directly from our SAP BAS billing system and maps directly to a price control unit based on its coding. Those revenue types with a separate retail element are identified directly from this billing system and have been allocated appropriately, as per reporting requirements in RAG 4.06. These include trade effluent and developer services administration fees.