Business Plan 2016 – 2025

Running Water

GuernseyWater

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FOREWORD

Stephen Langlois, Director of Water Services

In the future Guernsey Water will need to become more flexible to meet new regulatory requirements, increasing demands from the States of Guernsey and keep up with the rapid pace of technological change to meet ever increasing customer expectations. In accord with 'Service Guernsey', we also need to get much closer to our customers to understand and meet their changing needs. This will all be set against a backdrop of growing pressure on our island's resources and a squeeze on household budgets. These challenges cannot be met by Guernsey Water alone, so cross-committee collaboration and partnership working will become even more important in the future.

How we plan to meet these challenges is set out within this business plan; 'Running Water' is our integrated water and wastewater plan for the next 10 years and it is aligned with States of Guernsey political and Public Services reforms. 'Running Water' is outcome-focused and has three key themes of Strategy, Service and Efficiency that will lead us towards a collective vision that we will continually strive for:

"Customers always value the quality of our drinking water and the safe return of our wastewater to the environment."

The outcomes to help us achieve this are set out in the following pages and in preparing this plan we recognised that they cannot be successfully delivered without having the right roles with the right responsibilities in the right parts of our organisation. This was the purpose behind our business reorganisation in 2015, its main focus being the completion of our transformation into both a water and wastewater business.

In 2012 the States of Guernsey agreed to merge the wastewater function previously within the Public Services Department into Guernsey Water to provide a full range of water and wastewater services within a single business. Since that time substantial synergy has been achieved between the two organisations and completion of our Belle Greve Wastewater Centre (BGWwC) refurbishment has been a major step towards us achieving our vision.

However, we are still in transition and much more needs to be done to achieve full integration of our water and wastewater services to realise maximum benefit from the changes in 2012 and arrest the present deterioration of our wastewater infrastructure. Our business reorganisation was the first step; delivery of our business plan over the next decade will complete the transformation in much the same way as we transformed our water services and water infrastructure over the last decade.

EXECUTIVE SUMMARY

Our business plan identifies the outcomes we are aiming to achieve over the next 10 years. It sets out the initiatives that will help us deliver these outcomes and when we plan to deliver them. We are less prescriptive on how we will deliver to allow scope for innovation that could involve new technology or better ways of working; our focus all the time being on how we continue to improve the way we do business.

Our plan is ambitious, so we have taken the time to develop it in consultation with the teams that will be responsible for delivering it. We also recognise that we are setting out our plan at a time when public services in Guernsey are embarking on a journey of transformational change, and Guernsey Water is no exception to this. This means that our plan needs to be flexible and adapt to change during delivery. Despite the uncertainty, one thing we are sure of is that effective collaboration will be essential if we are to succeed and this is recognised throughout our plan.

Our business plan is outcome-focused and has been developed around themes of strategy, service and efficiency. These themes are all interdependent and, although of greater importance to some of our outcomes than others, there are elements of all these themes running through each of our outcomes.

Strategy

Having a robust long-term strategy is vital for Guernsey Water if we are to invest wisely in our infrastructure and our ability to provide a valued service for customers in the future. For example, our water resource management plan is one of our 'sufficient & resilient' initiatives; it will provide a 25 year strategy for meeting our islands' water supply needs. This will help the long term efficiency of any investment in our water resources by ensuring we only spend our customers' money if we absolutely need to. If we do need to invest then this strategy will help ensure we do so at the right time, maximising value for our customers throughout the whole life of any new assets we create.

Service

We provide a vital service for the day to day lives and livelihoods of our customers. In delivering these services we have a similarly important role as stewards of the water environment. Whether it be for households, businesses or the environment our service provision must be affordable, reliable and focused on quality. To achieve this we will work hard during the life of our plan to develop a much better understanding of operational risk, which we must manage rather than avoid if we are to improve the quality of our services and be efficient. These are the principles that are behind the initiatives that will deliver our 'valued by customers', 'safe & good to drink', 'effective drainage' and 'protect our environment' outcomes.

Efficiency

Ensuring affordability for our customers requires a particularly close link between efficiency and service, but efficiency is about far more than just ensuring our services are affordable, it is also about ensuring we get the most from our resources and focus them on the things that matter the most to our customers. This means we must get closer to our customers in order to understand where they see best value in how we spend their money, we are planning a number of initiatives to help deliver our 'valued by customers' outcome that will help us achieve this.

Nevertheless, we recognise that household budgets are strained and that affordability is very important for our customers. To deliver the investment set out in our plan without simply putting the burden of its cost onto our customers, efficiency must underpin everything that we do. This is central to the delivery of our 'firm financial foundations' outcome, which supports the delivery of all our outcomes. Efficiency will help ensure that customers' bills remain affordable, provide resources to reinvest in improving our services, help us deal with the cost of unforeseen events and, if required, it will also help us to provide a return to the States of Guernsey, a previous investor in our business.

WHAT WE DO

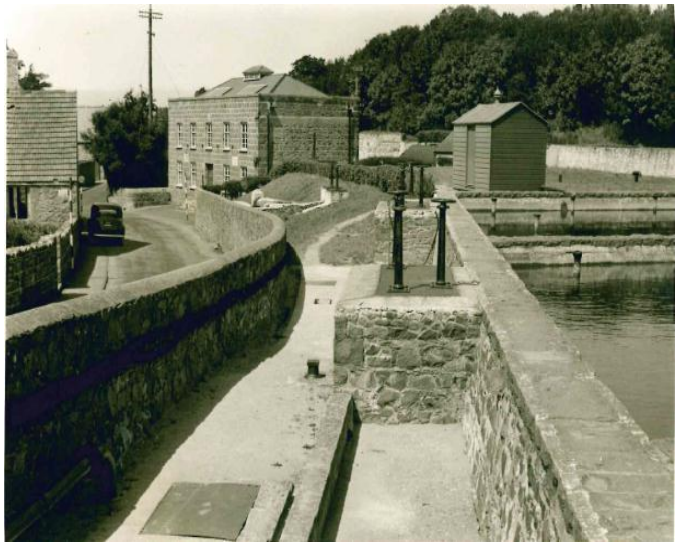
At Guernsey Water we appreciate and value our responsibilities as stewards of our island's water, all the way from source-to-sea. This means we take great care to ensure that water keeps running from our source waters, through the treatment and supply of drinking water to our customers' taps and finally, through the collection and safe return of wastewater to our surrounding coastal sea.

Through these processes we are trusted to provide good quality water for the everyday lives and leisure activities of all our customers; we support our economy by providing and collecting water from businesses and we carefully manage our island's water environment. Guernsey Water, and what we do, is right at the heart of our island community.

Here are some interesting facts about what we do and how we manage our precious water resources from source-to-sea:

- There are 22 raw water collection stations on the island collecting valuable water from our source streams
- We have 65 kilometres of raw water mains
- We have 17 raw water storage reservoirs on the island
- We store 4,425 megalitres of water when our reserves are 100% full - the equivalent of 1,770 Olympic swimming pools
- There are three operational water treatment works in Guernsey
- We treat about 12 megalitres of water every day – the equivalent of 48 million cups of tea
- The length of our water distribution system would be enough to stretch to Jersey and back five times
- There are four treated water storage reservoirs on the island
- We have 25,582 water customers
- Of our customers, 22,000 are connected to the sewerage system
- 4,500 customers have cesspits which are emptied and transferred to our sewerage network 165,000 times each year
- Our sewerage network would stretch to Jersey and back twice
- 156 skips of non-biodegradable waste is removed from our wastewater and disposed of every year
- An average of 450 litres per second of wastewater goes through preliminary treatment at BGWwC every day before it is returned safely to the sea

HISTORY OF GUERNSEY WATER



The Guernsey Water Company was formed in the late 19th century. By 1920 there were only 1,850 domestic services and 950 metered supplies on the island, consuming an average of 550 megalitres (ML) of untreated water each year.

The primary water sources at that time were seven wells in the St Martin's and Forest areas, five of which can still be used by GW today. In 1920 it was agreed that the States should take over the growing responsibility for the island's water supply and the States Water Board was formed. It was an inauspicious start as the following year the island had the lowest level of rainfall ever recorded, putting supplies under great strain.

During the next 15 years the Board constructed the island's first water treatment works (WTW) at Kings Mills (see photo left) and St Saviour's, which included gravity filters and chlorination equipment. Pumping stations were also built to collect and transfer stream water flowing down various valleys around the island into storage.

By 1930, annual consumption had doubled to 1,100ML and it was clear that increased raw water storage would be required. As an initial measure disused quarries in the north of the island were purchased which helped to maintain supplies. However, it was clear that demand was only going to increase further, so in 1936 the Board proposed the construction of an impounding reservoir in St Saviour's valley which would create a 1,090ML reservoir. The project was agreed and work began in 1938. Work on the dam was halted during the occupation but commenced again in 1946 following the island's liberation. The dam was sealed in January 1947 and by April of that year St Saviour's reservoir was full to overflowing.

Over the following years more pumping stations were built, more disused quarries purchased and a new WTW was constructed at Juas to meet continuing increases in demand. By 1958 more than 3,400ML was supplied each year. At this time a revolutionary desalination plant, the first in the British Isles, was constructed to augment the island's supply during dry summers. The plant was generally successful and without it supply restrictions would have been likely in 1964 and 1965, but ultimately it proved to be uneconomical and it was decommissioned shortly after 1970.

Demand was up to 5,000ML a year by the hot summer of 1970, so the Board agreed to purchase the Longue Hougue quarry. This extremely deep reservoir stores 1,400ML of

water, over a third more than St Saviour's, and is a major component of the island's water storage capacity. In 2009 a new WTW was built at the Longue Hougue site utilising membrane technology first introduced at St Saviour's WTW in 2004.

In 2012 Guernsey Water formally merged with the Public Service Department's wastewater function, bringing together our shared stewardship of the source-to-sea elements of Guernsey's water cycle. Since then major improvements have been made to our wastewater infrastructure through the introduction of a specific wastewater charge, this has included completion of the £35m infrastructure project at BGWwC.

Forest Road Water Tower, built in 1931/32. Constructed to gravity feed properties in the area with treated water in order to balance the peaks and troughs of customer demand.

WHO WE ARE

There are five members of the Guernsey Water Leadership Team (see opposite). Guernsey Water itself is made up of a team of 86 people and more details are provided on our organisational structure in Appendix 1.

Director of Water Services

Stephen Langlois:

Stephen took over as the Island's Director of Water Services in July 2014 bringing with him a wealth of experience from many years working in the UK water sector, most recently Anglian Water. He is a chartered water and environmental manager with a post graduate qualification in water and waste water treatment technology from Cranfield University. Stephen has over 15 years of professional water and waste water management and operational experience. His role is to ensure the safe and efficient operation of the island's drinking water supply and sewerage system.

Water Quality Risk Manager

Margaret McGuinness:

Margaret joined Guernsey Water in August 2015 after almost 20 years' experience within the industry. She has an in-depth knowledge of water and waste water systems. As Public Health Manager at Scottish Water she was responsible for managing drinking water quality and waste water pollution incidents. Margaret is a Fellow of the Royal Society of Chemistry, a member of the Royal Society of Public Health and chair of the Public Health Network for Water UK. Her team manages water quality risk from source to sea, ensuring customers receive drinking water of the highest quality and that wastewater discharges meet environmental standards.

Capital Delivery Manager

Mark Walker:

Mark is a chartered civil engineer with over 20 years' experience in the water industry in the UK; this includes substantial experience of working under the economic regulation needed by the UK water industry. He has also worked in local government and for engineering consultants. Mark's role is to oversee all Guernsey Water's capital projects.

Customer Service Manager

Chris Hall:

Chris joined Guernsey Water in 2007 bringing a wide range of experience from dairy, retail, motor Industries and the Royal Air Force. He oversaw the successful centralisation of Guernsey Water to the St Andrew's reservoir site and introduction of the wastewater charge in 2011.
He is responsible for ensuring all 25,000 of our customers receive a high quality service with billing or account queries. He also oversees the organisation's finances and administration.

Operations Manager

Jon Holt:

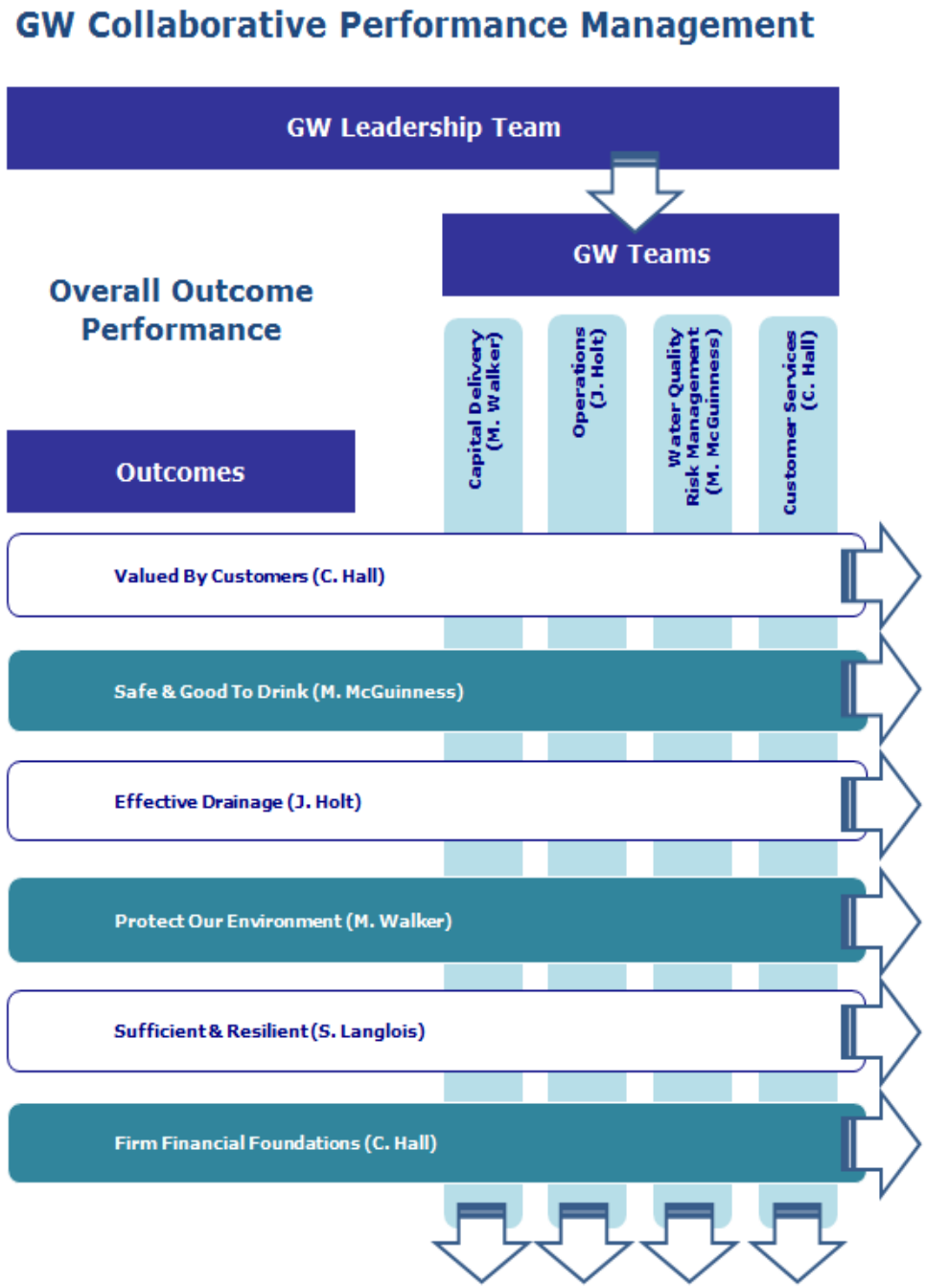
Jon is a chartered engineer with over 15 years' experience across operations and asset management in the water industry. He joined Guernsey Water in 2011 from Anglian Water. As operations manager, Jon oversees the operation and performance of all of Guernsey Water's clean and wastewater assets – this ensures that Guernsey Water is able to provide a resilient, high quality service to its customers 24 hours a day.

Number of Staff:

Director	1
Health & Safety	1
Operations	39
Capital Delivery	12
Customer service	24
Water Quality Risk Management	8.6
TOTAL	**85.6**

COLLABORATIVE LEADERSHIP

We know that successful collaboration will be vital if we are to deliver our outcomes. In order to lead this effectively we have a collaborative leadership team structure. In addition to responsibility for setting the direction for their own teams, each member of the Guernsey Water leadership team is also responsible for delivering one of our outcomes. The model opposite illustrates these responsibilities and the leaders accountable for each outcome.



OUR OUTCOMES

Our business plan establishes an outcome-based approach to service delivery for Guernsey Water that will require new ways of working. An outcome is something that we feel our community, which is made up of domestic customers, businesses and the environment, should experience as a result of our actions and the actions of others. Therefore, by their very nature, our outcomes cannot be achieved without collaboration.

The importance of collaboration is further enhanced by the fact that different outcomes cannot be realised in isolation from one another. A simple example is our aim to be valued by our customers, which will not be possible without delivering water that is considered safe and good to drink.

An outcome-based approach focuses us on the experience our community has of our services as well as how we deliver them. This allows us to be innovative in the way we achieve an outcome and affords our plan a degree of flexibility, which we feel is important because the best way of delivering an outcome may change over time.

Our outcomes will be the focus of everything we do at Guernsey Water. No single department will be responsible for delivering them; they will all be the responsibility of everyone. Indeed to achieve these outcomes we will need to collaborate effectively across our business and also with other States departments, businesses, contractors, customers and leading experts across our island and beyond our shores. This will be vital not only for our success but also for the success of others as we face significant future challenges together.

1. VALUED BY CUSTOMERS

Customers understand, trust and value the quality of all our services and find them affordable

2. SAFE & GOOD TO DRINK

Customers trust that our drinking water looks good and tastes good

3. EFFECTIVE DRAINAGE

Customers are protected from flooding and wastewater is returned safely to the environment

4. PROTECT OUR ENVIRONMENT

Water quality is protected from source-to-sea and our environmental impact is carefully managed

5. SUFFICIENT & RESILIENT

Our water and wastewater systems are adapted to climate change and have sufficient capacity to meet the future needs of our island

6. FIRM FINANCIAL FOUNDATIONS

Our operations and services are efficient, investment in our assets is affordable and an appropriate return on investment is available to the States of Guernsey

In our business plan we have identified initiatives to help us achieve each of these outcomes. In addition, our capital programme will deliver identified investment to support delivery of each outcome. Delivering our outcomes will help meet targets set against key performance indicators (KPIs); which are listed under each of our outcomes in this business plan.

Like our business, our KPIs won't stand still during the life of this plan, neither will our targets which are not set in stone, many are yet to be fully defined and will evolve. For example providing 'effective drainage' will require us to remove a number of properties from our sewer flooding register, but until we have completed our integrated drainage strategy we will not know what our target is.

Where our KPI and targets change we will highlight this within an annual report on our performance.

OUR CAPITAL PROGRAMME

What do we want to achieve?

Efficient delivery of a prioritised capital programme that supports the delivery of our outcomes

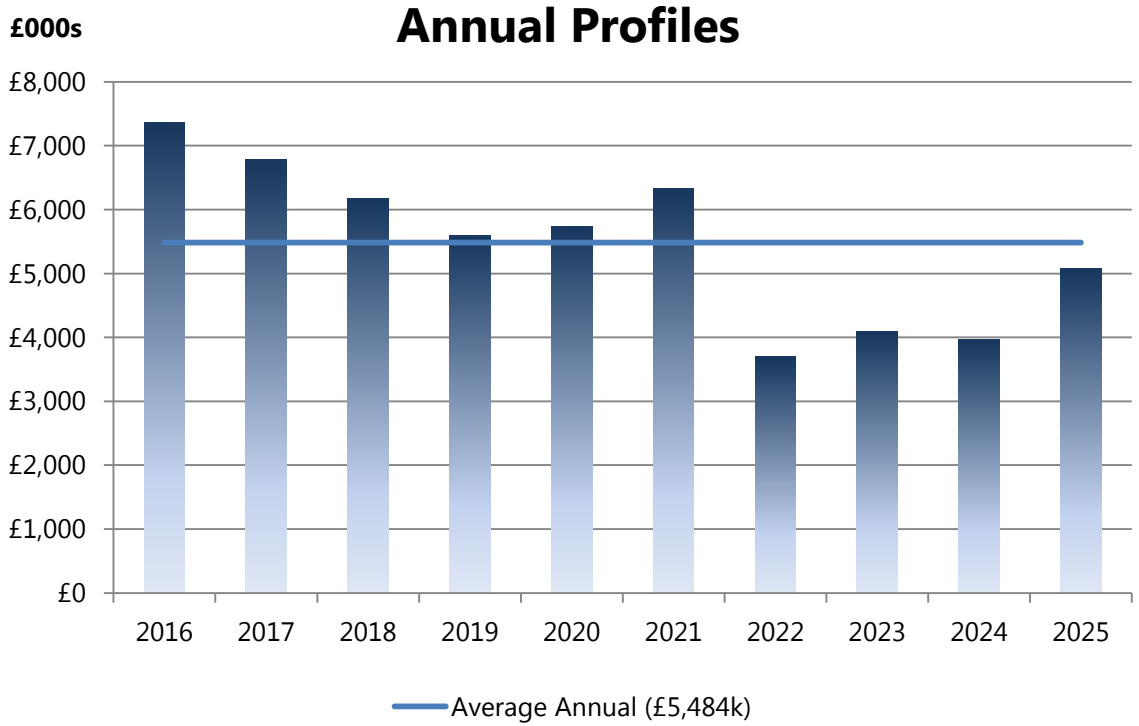
What does this mean?

Investment in our capital programme will be required to maintain and improve our infrastructure, this will be vital for effective service delivery and achievement of our outcomes. Just over half of our planned investment is allocated to improving our wastewater infrastructure and ensuring its condition is stabilised to enable ongoing maintenance by future generations. The scale of investment needed to achieve this presents significant affordability and deliverability challenges. Therefore we have challenged all our capital investment proposals and significantly reduced the size of our plans by £15 million to a total of £55 million for the 10 year period. We are confident that this will provide the right balance between affordability, maintenance and improvement of our services.

We have also undertaken a prioritisation review to understand the relative importance of each project or sub-programme. This method of prioritisation will be used going forward to understand the priority of any new additions or changes relative to our overall capital programme. This prioritisation will help ensure the affordability of our capital programme as we progress its delivery. Details of our prioritisation assessment are included in Appendix 2.

We have also profiled the expenditure needed to achieve an affordable and deliverable programme within the financial and practical constraints we must operate within. Our peak spend of £7.4 million is planned for 2016 (Chart 1). Excluding expenditure on the major BGWwC projects (Phases IV and V) this will be our highest level of capital investment since the merger between the clean water and waste functions in 2012 (Chart 2).

CHART 1.



Our business plan has been prepared in line with our current 'save-to-spend[1]' financial strategy. On this basis we have modelled our capital programme in conjunction with our planned income and revenue budget for the next 10 years[2]. On the basis of the assumptions made, our capital programme is affordable without shifting the burden of its cost onto our customers. However, it will require draw down of our existing cash reserves to a minimum sustainable level.

The amount of investment needed in the first few years of our capital programme has greater certainty and in many cases detailed business cases support our plans. However, the level of uncertainty increases with time and many of the investments planned for 2021 to 2025 will be refined on the basis of investigation and strategy development during the first five years of our plan. Therefore our capital programme will be reviewed on an annual basis and any changes that affect its overall affordability will trigger a review of our business plan.

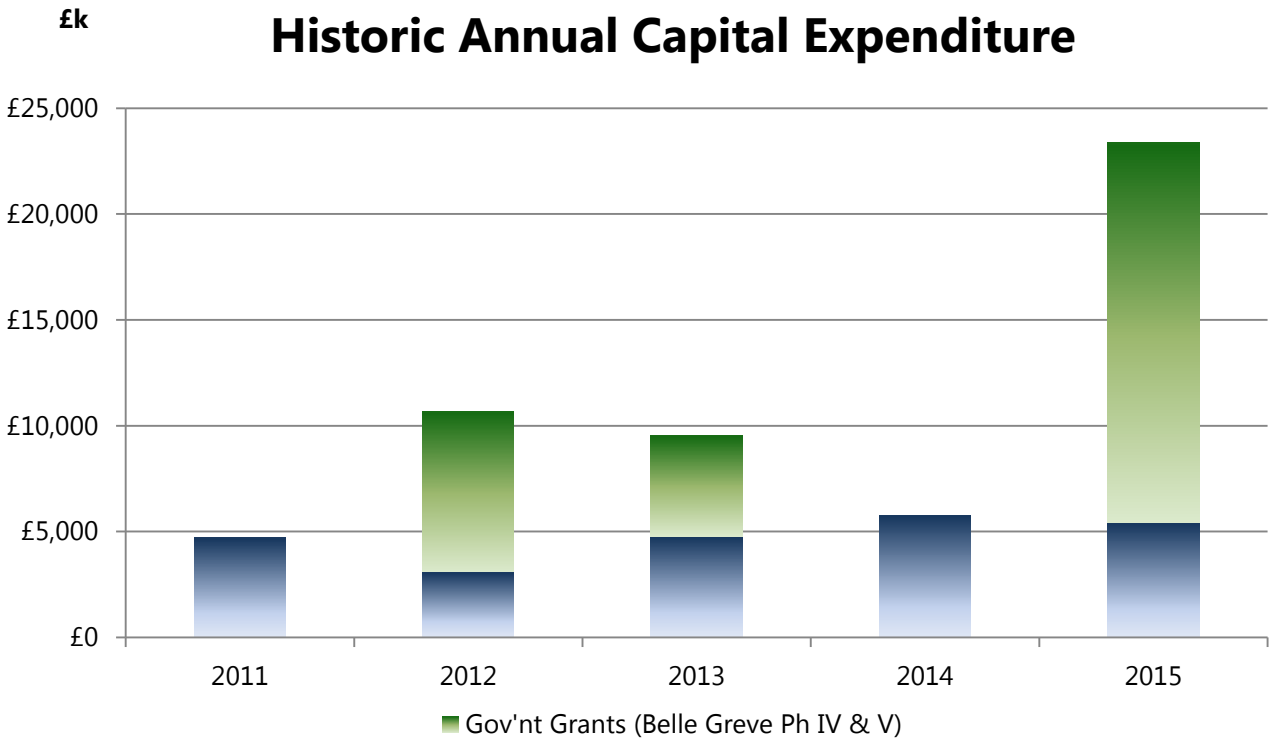
We have also prioritised our capital programme (Appendix 2) to allow the flexibility of reducing its scope through deferral of lower priority investment until after 2025 if required. Alternatively, if resources allow, we will bring forward high-priority investment to accelerate benefits realisation for our customers. Such resources could be released through more efficient delivery of our capital programme or services; challenging our business to achieve this will be a priority going forwards. This flexibility within our capital programme is important given the potential for variation from the assumptions on which our financial modelling is based and uncertainty over whether we will continue with a predominantly save-to-spend business model.

[1] Guernsey Water is entirely funded by income received from customers' bills aside from investment in our BGWwC in 2012-13 and replacement of our sea outfalls in 2015 which was funded from the States' capital reserve.

[2] For more on the modelling of our financial strategy and how it could change our 'firm financial foundations' outcome see pages 65 to 73.

By clearly defining the links between capital investment and our outcomes we can maximise the value of our capital programme for our customers. In order to ensure this our Capital Investment Board (CIB) will continue to provide a rigorous evaluation of each business case that is submitted for our projects. These business cases must provide adequate detail for the CIB to make an informed decision on whether to progress the proposed scheme; this will include options considered, outcomes supported, benefits, cost comparisons, availability of funding, risk assessment and procurement strategy. The CIB will rigorously challenge investment proposals; defining cost benefit to determine how each outcome is supported by each investment. The CIB will also review projects to ensure that their benefits are realised.

CHART 2.



How will we measure our performance?

Annual[3] 'planned vs actual' capital programme outputs delivered such as:

- Length of sewer/water main/rising main rehabilitated or replaced
- Number of CSOs improved to meet regulatory standards
- Properties removed from our flooding register and/or flooding mitigation measures installed
- Number of key assets rehabilitated such as pumping stations, water treatment works & service reservoirs etc.

Target = 100 % delivery of planned annual outputs *(with flexibility to bring forward alternative schemes if output delivery becomes unfeasible)*

Planned vs actual capital programme spend

Target = planned spend less annual capital efficiency target *(agreed annually at the start of each year according to overall financial target for the year and degree of opportunity within the planned capital programme)*

[3] Long term targets for these measures will be determined through the development of strategy such as our integrated drainage strategy

What resources will be required?

Our capital programme will be enhanced during this business plan period through greater focus on our approach to asset management, ensuring in particular that replacement and rehabilitation of our assets is undertaken at the appropriate time. The best practice principles of a 'common framework' approach to this will be developed to help achieve our outcomes in an efficient way, namely by adopting a risk-based approach to ensure that investment is targeted at the most appropriate areas. Resourcing our asset management team for this was an important aspect of our business reorganisation in 2015.

It is expected that the large majority of all work undertaken will be project managed with in-house staff although specialist consultant services will be used where necessary for both design and project management.

While each project or programme may help with the delivery of more than one of our outcomes, the capital programme has been split so that each investment is assigned to a 'primary' outcome. In the following pages a summary of the programme areas can be found in the 'what resources will be required' section for each of our six outcomes.

Over the next five-year period (2016-2020) we propose to invest just under £32 million (Table 1). This includes £22 million on wastewater asset maintenance and improvements, almost £8 million on clean water asset maintenance and improvements and just over £2 million on management and general asset replacement. Our investment is concentrated on stabilising the condition of our wastewater infrastructure as the balance on investment across water and wastewater indicates. Chart 3 illustrates the emphasis on our 'effective drainage' and 'protect our environment' outcomes, which are predominantly focused on our wastewater services.

CHART 3.

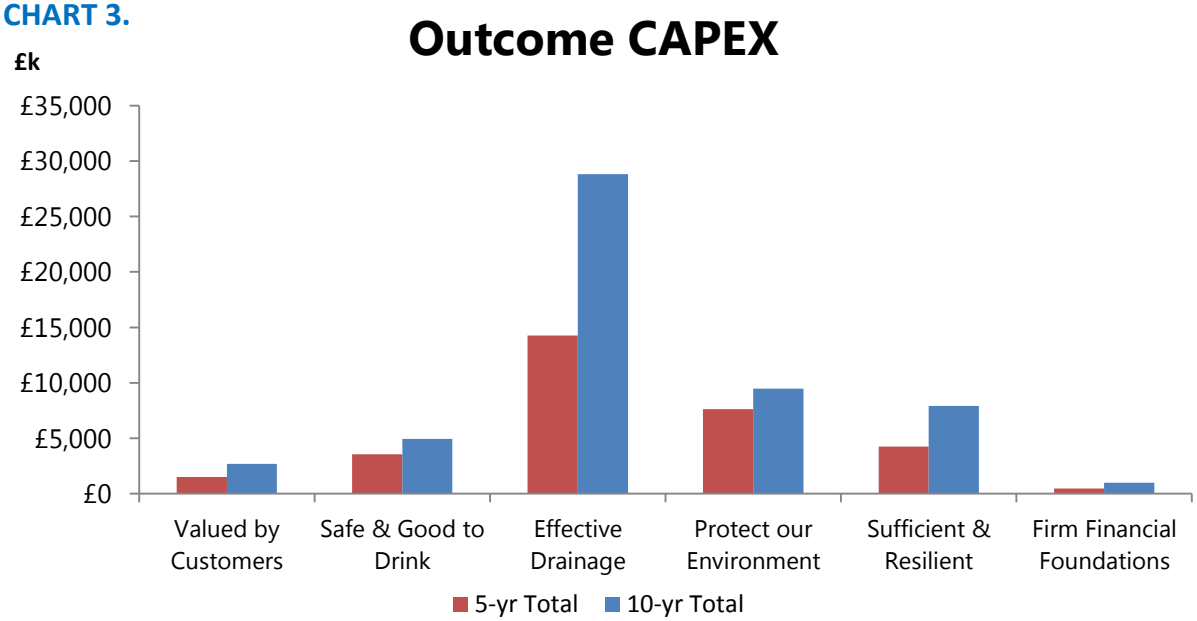


TABLE 1. OVERVIEW OF OUR OUTCOME-FOCUSED CAPITAL PROGRAMME

OUTCOME	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Valued by Customers	395	240	430	230	210	605	180	105	155	135	1,505	2,685
Safe & Good to Drink	775	875	1,375	450	85	85	285	85	85	835	3,560	4,935
Effective Drainage	2,250	2,680	2,830	3,050	3,450	3,380	2,720	2,870	2,720	2,870	14,260	28,820
Protect our Environment	2,650	1,505	805	1,105	1,555	1,590	40	90	40	90	7,620	9,470
Sufficient & Resilient	1,254	1,364	574	689	359	584	339	864	834	1,064	4,240	7,925
Firm Financial Foundations	35	120	170	75	75	85	135	85	135	85	475	1,000
TOTAL	**7,359**	**6,784**	**6,184**	**5,599**	**5,734**	**6,329**	**3,699**	**4,099**	**3,969**	**5,079**	**31,660**	**54,835**

FUTURE GOVERNANCE

The States Review Committee has provided an opportunity to change the way the States does business. This is supported by public services reforms. The most significant change for Guernsey Water is the creation of the States Trading Supervisory Board (STSB).

This board will represent the interests of the States in each of the trading assets that it has invested in. The way this board functions will evolve during the early part of the delivery of our business plan. However to inform the development of our plan we have consulted with members of the current supervisory sub-committee that performs a similar function on behalf of the States for their incorporated trading assets.

We believe that the three themes of strategy, service and efficiency that run through our plan will align well with the duties of the STSB which are to ensure the efficient management, operation and maintenance of States' trading assets such as Guernsey Water.

We have also ensured that our plan aligns clearly with the States strategic aims and the current corporate strategy for the Public Services Department.

Our plan provides for:

Strategic planning

- Preparation of a 25 year forward plan for water resources
- Development of a long term integrated drainage strategy
- A strategic review of our water treatment operations
- A review of our financial strategy

Robust scrutiny and performance management

- Key performance indicators
- Independent audit of our operations
- Effective risk management

Greater transparency and accountability

- Annual reporting of performance against delivery of our business plan
- Published customer service and efficiency benchmarking

However we do recognise that as the STSB establishes itself, we may need to review and potentially update our plan. We will make any material changes on an annual basis; otherwise our plan will be updated every five years with the next update planned for the end of 2020.

SUPPORTING STATES AIMS

The States Strategic Plan sets out a number of social, economic and environmental aims that in essence:

Focus government and public services on protecting and improving the quality of life of islanders, the island's economic future and the island's environment, unique cultural identity and rich heritage.

As a provider of a vital public service it is important for Guernsey Water to closely align our vision (below) with these aims:

"Customers always value the quality of our drinking water and the safe return of our wastewater to the environment."

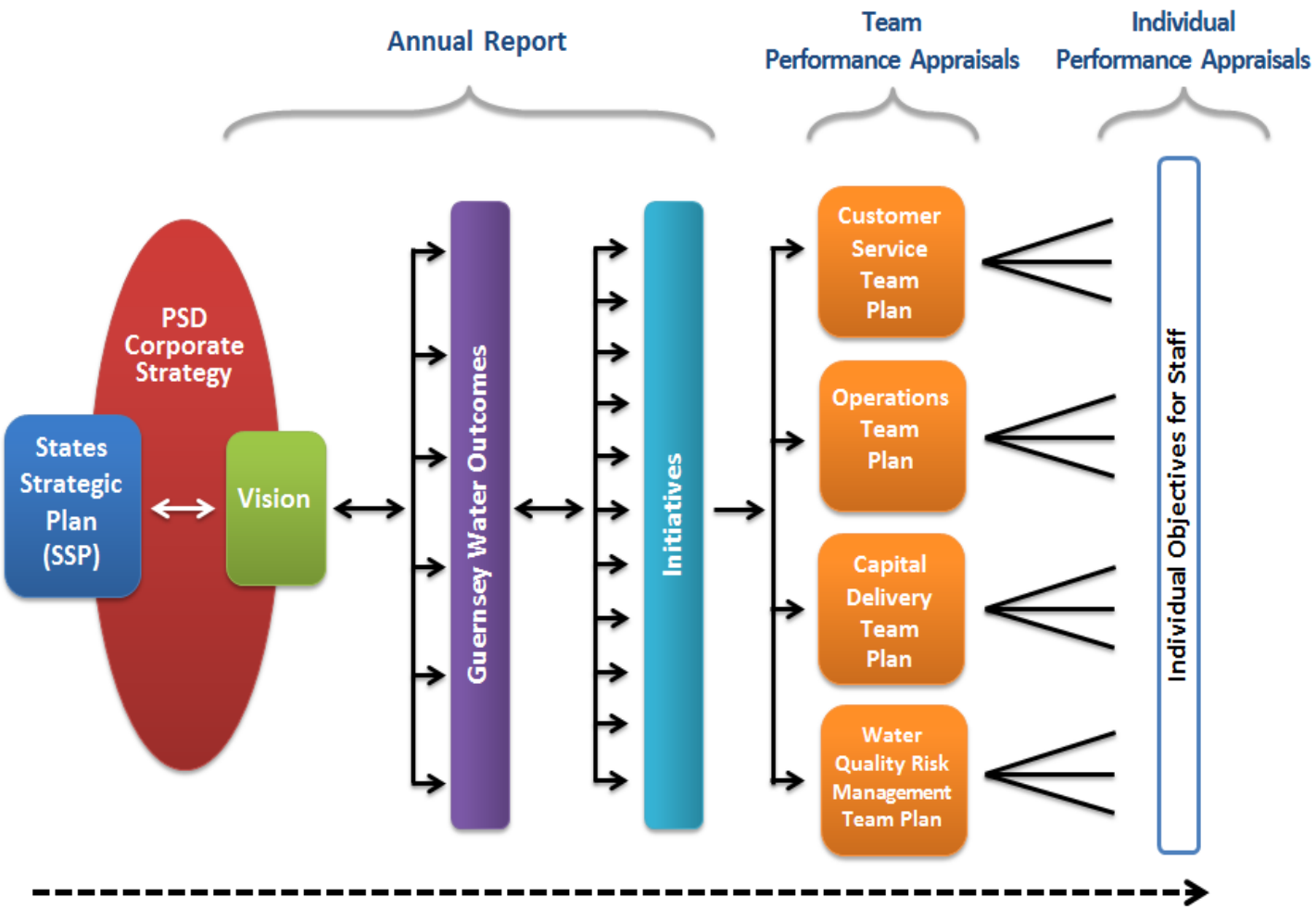
Our vision is focused on the value of our core business, which is water and wastewater service provision. Ensuring a consistently high quality of both these services is vital for public health and environmental protection, hence this is also very important for the protection of quality of life for islanders. Our customers include both households and businesses and the quality of our water and wastewater services is important for both, so we also provide essential support for Guernsey's economic future.

Delivering our outcomes will help us achieve our vision and in our business plan we have identified the initiatives and capital investment needed to help deliver these outcomes. Therefore there is clear alignment between this business plan and the States' strategic aims. Our business plan also aligns well with the current corporate strategy for the Public Services Department (2015 to 2020).

Each year team plans will be prepared for our Customer Services, Operations, Capital Delivery and Water Quality Risk Management teams. These plans will include the initiatives set out in our business plan and they will also determine how individual objectives are set for team members. Therefore, all our staff have a 'line of sight' between their own objectives and the ultimate aims of the States of Guernsey. As a public service we feel that this is very important.

Our business plan has been developed in consultation with our staff, who are supportive of the stretching ambition set out within it. This is important because each year their performance will be assessed against the delivery of the individual objectives they have been assigned that will help to deliver it; everyone in our business must be committed to the delivery of our business plan. Each year teams will also review their collective performance against delivery of their team plans and we will publish our annual report, which will set out how we have performed as a whole with the delivery of our business plan.

ALIGNMENT WITH STATES STRATEGIC PLAN



SERVICE GUERNSEY – OUR VALUES

As an unincorporated trading asset, Guernsey Water is an important part of the States of Guernsey and provides our community with a vital public service. At Guernsey Water we share the drive for continuous improvement set out within the framework for public services reform[4]. At the heart of this reform are the 'Service Guernsey' values and embedding these within Guernsey Water will help us to deliver our plan. Our priorities for these values include:

- **Teamwork.** Our business plan is outcome focused so, by its very nature, it will require a collaborative approach to delivery. This is why we have developed a collaborative leadership model to promote joint working across our business. It is also an ambitious plan and to deliver it will require us to make the most of our resources, this will require our collaboration to extend to stakeholders across our island and experts beyond our shores.

- **Customer focus.** Delivery of our plan will put customers right at the heart of our business by making customer focus a vital part of every single role in our organisation. The initiatives behind our 'valued by customers' outcome will help us do this. They will also help us get closer to our customers to better understand their experience of our services and how we can improve our services to provide them with best value for money.

- **Accountability.** Guernsey Water will be more transparent and accountable during delivery of this business plan. We will publish our performance against its delivery each year in our annual report. We will also publish the results of our benchmarking studies and the outcome of independent audits of our water quality management systems. Accountability is also important on an individual level and performance appraisals will ensure everyone in Guernsey Water takes ownership of their role in delivering our plan.

- **Empowerment.** Accountability must go hand-in-hand with the empowerment to deliver. At Guernsey Water we understand that to achieve continuous improvement we need to support the development of leaders at all levels within our organisation. This means encouraging new ideas, supporting those who try new ways of doing things, allowing them to learn when things don't go so well and, ultimately, trusting our people to deliver.

[4] Ref: Public Service Reform Document: http://gov.gg/CHttpHandler.ashx?id=97311&p=0

HEALTH & SAFETY

What does this mean?

At Guernsey Water we take health & safety very seriously. This was evidenced in the States of Guernsey 2014 people survey that showed 92% of our staff felt this was the case. Nevertheless we are not standing still and continue to improve our health & safety management system which is currently half way through a two-year review that will be completed by the end of 2016. This WorkSafe HomeSafe initiative will review all our health & safety policies, but more fundamentally focuses on communication and seeks to develop a culture of health & safety ownership in Guernsey Water.

Our charter (Appendix 3) is our promise to approach health & safety with an open and constructive mind. It leads each of us to listen when other staff are concerned for our welfare and also to take action if we see something that doesn't seem quite right. In signing up to this charter everyone in Guernsey Water commits themselves to these core health & safety principles.

What do we want to achieve?

Our main aim is for all our staff and those affected by our operations to WorkSafe and get HomeSafe. To recognise when our management systems have reached the recognised standards for achieving this we are also aiming to attain OHSAS18001, ISO45001 or equivalent accreditation during this business planning period.

How will we measure our performance?

- Accident frequency rate (number of accidents per 100,000 working hours)
- RIDDOR[5] frequency rate (number of RIDDOR per 100,000 working hours)
- Number of days lost through injury
- Number and type of near misses reported and addressed

[5] Reportable Incidents Diseases and Dangerous Occurrences Regulations

How will we achieve this?

All our health & safety policies are developed through consultation with our staff, a process facilitated by our staff safety champions. We also take the time to explain policy in a way that is relevant to our staff and check their understanding before moving on. We believe this creation and dissemination process is vital for the development of a culture of health & safety ownership in our organisation.

Each year we will develop and deliver a risk-based health & safety plan in consultation with our champions and under the governance of our health & safety leadership team, which is made up of all senior managers in Guernsey Water. Each member of this team supports the delivery of specific objectives within this plan. They also carry out monthly active management visits to see high-risk activities being carried out in the field and learn directly from staff whether the way they are managed can be improved.

What resources will be required?

Health & safety is the responsibility of everyone in Guernsey Water, but as part of developing a culture of ownership for health & safety and in line with our Service Guernsey values, we will be focusing on supporting the empowerment of our line managers and safety champions when it comes to ensuring the wellbeing of their teams and those that could be affected by their activities.

As part of our business reorganisation in 2015 we also established a dedicated Health & Safety Co-ordinator position. This role is responsible for co-ordinating the development and delivery of our annual health & safety plan and reports to the health & safety leadership team. We will also draw upon external expertise to independently audit our health & safety management system and share best practice across the States of Guernsey through our PSD Corporate Health Safety & Risk Manager.

Health & safety is also an important part of our capital programme and is incorporated into our asset design standards. We have several ongoing capital maintenance programmes, wastewater pumping station refurbishment for example, which are addressing health & safety issues on our operational sites. These issues are raised by staff as near misses and the health & safety leadership team during their active management visits. We also carry out an independent bi-annual safety audit of all our operational sites.

RISK MANAGEMENT & AUDIT

Risk Management

Risks can be avoided completely, minimised, transferred to others or we can plan to deal with their effects. The decision on how to mitigate a risk will be made on a case-by-case basis but an informed decision can allow a greater appetite for risk whilst preventing it from materialising as an issue, or ensuring that if this does happen you are well prepared to deal with it. Effective risk management is very important for the successful delivery of our outcomes. Here are just a few examples of how it can help:

- **Safe & Good to Drink** - emergency response and recovery planning for critical assets to restore service as quickly as possible if they fail
- **Protect Our Environment** - prevent pollution by improving our combined sewer overflows, reducing the risk of prosecution and reputational damage
- **Sufficient & Resilient** - maintain service levels by ensuring suitable protection from drought and flooding
- **Firm Financial Foundations** - understand the acceptable level of risk to ensure resources are deployed efficiently

Guernsey Water manages operational and management issues on a daily basis; issues are current problems that could affect the delivery of our outcomes whereas risks are problems that could affect this in the future. Many of the initiatives in our business plan are aimed at understanding our business risks so we can operate more efficiently by being less reactive (dealing with issues) and more proactive (managing risks).

For example, one of our 'safe and good to drink' initiatives is to develop a hydraulic model of our water supply network. This will give us a better understanding of the amount of time our treated drinking water spends in our pipes and storage reservoirs before it gets to our customers' taps. By putting less treated water into supply we have less capacity to deal with losses from burst water mains, but quality will improve and the likelihood of water quality incidents will reduce. Better management of the amount of water we put into supply and when will also help us to manage our operating costs. Balancing quantity, quality and cost when putting treated water into supply requires risk-based decision making that will be informed by the development of our hydraulic model.

Risk management within Guernsey Water is currently evolving and will develop considerably during this business planning period. We have been through a process of identifying, assessing and prioritising our business risks. They have been captured on a risk register that is owned and regularly reviewed by our leadership team. Many of the initiatives within this business plan will

manage and reduce those risks to an acceptable level. We will use our risk register to monitor our progress with this and the mitigation of new risks that we identify going forward.

Audit

Risk management will also inform our internal and external audit programmes. We recognise the importance of this for the reduction of business risk and continual improvement of our services. We also recognise the importance for our current board and the States Trading Supervisory Board who require assurance of our compliance with legislation.

We already work closely with the States internal audit and risk assurance team and during 2015 they completed a thorough review of our compliance with data protection requirements. The findings have subsequently been reported to the PSD board and, as with the outcome of all internal audits, issued for information to the Chief Minister, Chief Executive and his management team, Public Accounts Committee and States of Guernsey external auditor. No critical recommendations were made and subject to completion of an agreed action plan during 2016 full assurance will be attained.

To complement our ongoing programme of internal audit we are also planning external audit during the course of delivering our business plan:

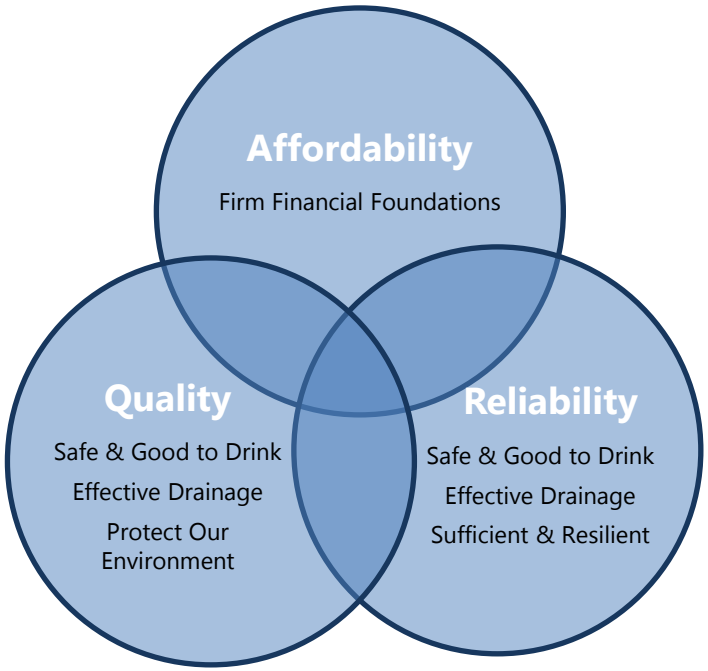
- **Safe & Good to Drink** - We will work together with our Guernsey regulator, the Director of Environmental Health and Pollution Regulation and a UK regulator, such as the Drinking Water Inspectorate, to develop an audit and improvement regime that is proportionate to our island context.
- **Protect our Environment** – To assure compliance with permits under the Water Pollution Ordinance (WPO), in accord with the principles of 'operator self-monitoring' we expect to carry out a regular audit of our operational quality management systems for review by the Director of Environmental Health & Pollution Regulation.
- **Health & Safety** – We are aiming to attain OHSAS18001, ISO45001 or equivalent accreditation during this business planning period which will require independent audit in order to assess our progress towards compliance with these standards.
- **Quality Assurance** – to support the development of our quality management systems for our own policies and standards for water and wastewater operations, we will seek the appropriate accreditation to drive the continuous improvement of these systems.

ACHIEVING OUR OUTCOMES

1. VALUED BY CUSTOMERS

What does this mean?

We believe that in order to be valued by our customers we must gain their trust by focusing on the following three core principles of good service:



In order to balance these three principles effectively we will need to deliver all six of our outcomes. This puts 'valued by customers' at the heart of everything that we do; for every decision we make we must ask the question: what is the value to our customers? Many of the initiatives we will be delivering to achieve this outcome will help us answer this question with a better understanding of the experience our customers have of our services and what aspects of them they value the most.

For every decision we make we must ask ourselves the question: "what is the value to our customers?"

This means that we will be getting closer to our customers by improving our communication with them. We will also be doing more to listen to our customers by engaging them in consultation on how we are investing their money and the benefits that could bring.

We believe that by making our performance publicly available we will also encourage our customers to feedback to us on how we can improve. So as we deliver our business plan we will make our performance more transparent by ensuring our annual report sets out clearly how we are progressing with this.

We also believe that it should be easy for our customers to do business with us. This means that we must have an understanding and effective customer contact service which meets our customers' day-to-day needs.

In addition, for more complex enquiries and for enquiries that are specific to certain customer groups, such as developers, we must have dedicated points of contact that understand the specific needs of these customers and seek to improve our services to meet them.

Our customers do not stand still and neither do the biggest and best retail brands that they deal with. Their expectations of all

services, including our own, will evolve as their experience of dealing with these leading brands improves. This means that we must also continue improving our services by offering greater choice through expansion of our online services, for example, and tailoring our services to the changing expectations of our customers.

What do we want to achieve?

Customers understand, trust and value the quality of all our services and find them affordable

How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Customer Challenge Group	A group of appointed representatives that would give our customers a voice, help develop our customer charter, hold us to account against it, investigate unresolved complaints, challenge us and report independently on our performance and engage with us to inform business planning.	**Valued by Customers**	**2016**
Customer satisfaction performance monitoring	Develop a range of quantitative (such as time taken to resolve complaints) and qualitative (such as mystery shopper customer satisfaction metrics) to help us understand the value of our services to customers and where we need to improve.	**Valued by Customers**	**2016**
Dedicated account managers	Assign specific resource to our high value business accounts and ensure we have dedicated resource to make it easier for developers to do business with us.	**Valued by Customers**	**2016**
Customer liaison team	Create a customer-centred team to deal with more complex water and wastewater customer issues on behalf of our customers, co-ordinating and collating responses from across our business, other States departments and external organisations as required. Where things go wrong this team will minimise inconvenience to customers.	**Valued by Customers**	**2016**
Support our vulnerable customers	We will review our services in order to ensure equal access to our services. We will also review whether customers who are vulnerable and struggle to pay their bill should be given additional support.	**Valued by Customers Firm Financial Foundations**	**2017 - 2018**
Customer experience training	Training for all customer-facing staff to help us make the right impression first time, every time. This will not only be about getting the right result for our customers but about the experience they have dealing with us.	**Valued by Customers**	**2016 - 2017**
Benchmarking our service against others	We will share performance against our customer satisfaction metrics and learn from the best practice of other utilities in Guernsey, Jersey and the wider UK water industry. We will also commission independent comparative customer satisfaction surveys to track our performance over time and in comparison to other similar organisations.	**Valued by Customers Firm Financial Foundations**	**2016 onwards**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Enhance our website according to customers' needs	Continue to update and improve our website to increase the volume and ease of information and services accessed by our customers.	**Valued by Customers**	**2016 onwards**
Expand our IT based customer communications	We will continue to expand our use of social media and mobile phone technology to inform our customers of service disruptions as soon as possible, to continue to increase engagement and to inform customers of the benefit from investment we are making in our services.	**Valued by Customers**	**2016 onwards**
Focus groups	A select group of customer representatives to engage with us on specific initiatives proposed in this business plan to inform us of customer expectations for delivery.	**Valued by Customers**	**2016 - 2025**
Customer charter and guaranteed service standards	Working with our customer challenge group we will develop our promise to customers and set minimum water and wastewater service standards.	**Valued by Customers**	**2017**
Smart metering expansion	Expand on our smart metering programme to provide meaningful water consumption data to customers to help them manage their usage and costs.	**Valued by Customers**	**2017**
IT integration & development	Investigate the benefits of linking our systems for customer relationship, billing and financial management (Navision), operational control (SCADA) and asset management (Agility) to enable proactive customer communication and provide customer-facing staff with a much greater understanding of each customer's experiences of our services. We will also continue to develop our IT systems and use our data to improve the efficiency and reliability of our services. An IT strategy will be prepared for our business plan review by the end of 2020.	**Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient** **Firm Financial Foundations**	**2017 - 2020**
E-billing account access	Provide customers with access to and control of their Guernsey Water account.	**Valued by Customers**	**2018**

How will we measure our performance?

Customer satisfaction based on a range of quantitative and qualitative measures

- Target to be determined

Customer complaints as a percentage of all contacts

- Target to be determined

Benchmarking against similar businesses in other jurisdictions to learn from best practice and measure comparative performance over time

What resources will be required?

In 2015 Guernsey Water completed its business reorganisation which has laid the foundations for the delivery of many of our 'valued by customers' initiatives. The resulting changes provide dedicated ownership of customer care, pro-active management of our high value accounts and dedicated developer services. These changes have refocused our customer services team on both the water and wastewater expectations of our customers; they are congruent with 'Service Guernsey' and will help facilitate the ongoing process of putting customers right at the heart of our business.

Table 2 shows how we intend to spend £2.7 million on developing our systems to support delivery of our services with greater focus on our customers. £1 million is planned for water meter installation and replacement which is an ongoing programme. £180,000 is planned for our smart metering expansion and £350,000 for the enhancement of our billing and customer relationship management system. £500,000 is also allocated to an upgrade of our SCADA (Supervisory Control and Data Acquisition) systems for both water and wastewater.

TABLE 2. VALUED BY CUSTOMERS INVESTMENT PROGRAMME

Valued by Customers	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Software Updates	50	-	35	-	35	-	50	-	50	-	120	220
Billing & Accounts System Update (incl Web Portal Access)	50	-	200	-	-	-	-	-	-	-	250	250
Metering (Cost of Meters/Maintenance etc.)	100	100	100	100	100	100	100	100	100	100	500	1,000
Smart metering expansion	20	20	20	100	20	-	-	-	-	-	180	180
Replace Hand Held Metering Equipment	-	50	-	-	-	-	-	-	-	-	50	50
DGPS Replacement	-	-	-	-	30	-	-	-	-	30	30	60
IT Integration	100	60	65	-	-	-	-	-	-	-	225	225
Online developments	25	10	10	5	5	5	5	5	5	5	55	80
Phone system renewal	-	-	-	-	20	-	-	-	-	-	20	20
Server renewals and upgrades	25	-	-	25	-	-	25	-	-	-	50	75
Mobile technology	25	-	-	-	-	-	-	-	-	-	25	25
SCADA upgrade	-	-	-	-	-	500	-	-	-	-	-	500
Sub-TOTAL	**395**	**240**	**430**	**230**	**210**	**605**	**180**	**105**	**155**	**135**	**1,505**	**2,685**

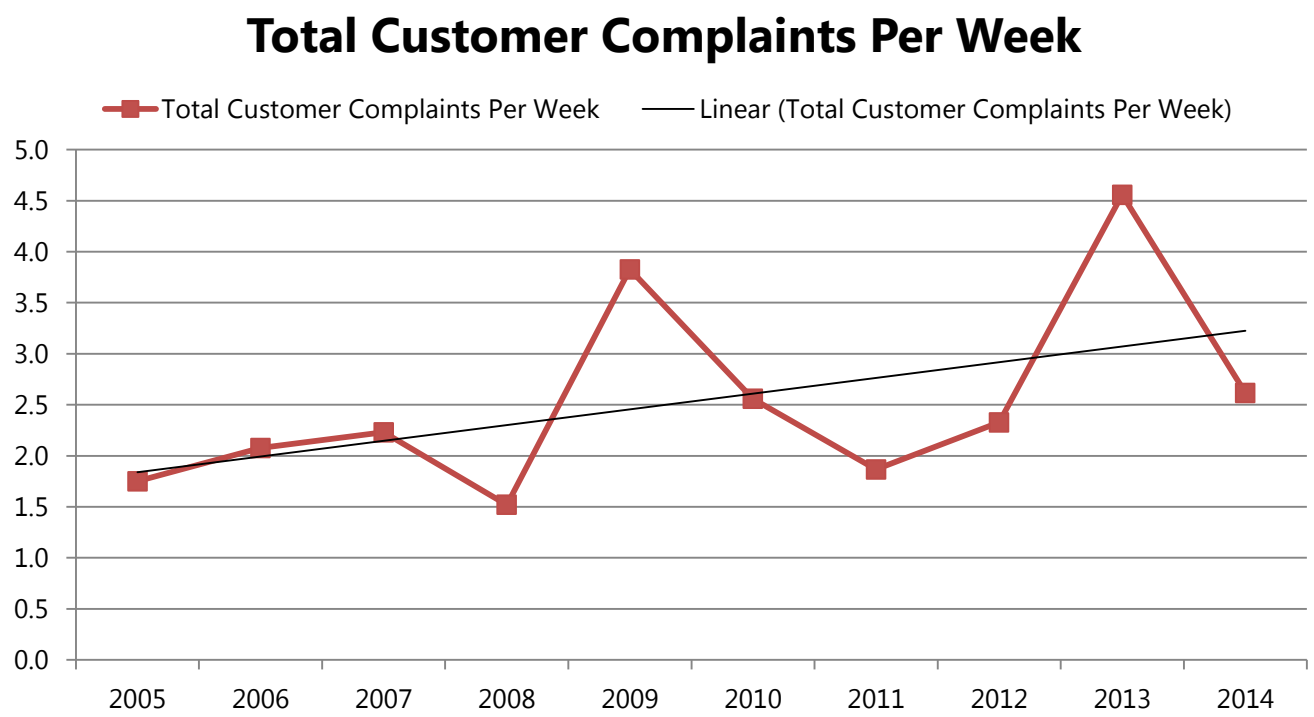
2. SAFE & GOOD TO DRINK

What does this mean?

Providing drinking water that is safe and good to drink requires us to manage water quality at every step of our processes between source and tap. We cannot do this alone particularly within the catchment areas for our streams where land management can have a significant impact on water quality. Developing our drinking water safety planning approach will ensure that our water quality risks are effectively managed as part of both our own operations and those of others such as farmers.

Drinking water is vital for public health so it is important that we have a good drinking water compliance record. Nevertheless we still believe it should be subject to rigorous external scrutiny which will help us to further improve and gain additional trust from our customers and our regulator. As part of our business plan we will work together with our Guernsey regulator, the Director of Environmental Health and Pollution Regulation and UK regulators, such as the Drinking Water Inspectorate, to develop an audit and improvement regime that is proportionate to our island context.

CHART 4. WATER QUALITY RELATED CUSTOMER COMPLAINTS 2005 TO 2015



Pending revision of Guernsey's Water Supply Law, we will continue to apply the best practice driven by UK legislation and will publish our compliance annually against the standards set out in the Water Supply (Water Quality) Regulations that apply in England and Wales.

Our compliance record is comparable to the high standards attained across Europe; our drinking water is safe to drink. However, between 2005 and 2014, we have seen a 5.8 % increase in the number of water quality-related complaints we receive annually from customers (Chart 4). This compares with a 38% reduction over the 10 years prior to 2014 in England and Wales. While these complaints do not affect our compliance, and relate

solely to the aesthetics of taste and odour, we take them very seriously as they undermine the trust of our customers.
Due to the rise in water quality-related complaints we have work to do in order to ensure our drinking water looks good and tastes good. Our primary focus will be to deal with the seasonal 'earthy' taste issues our customers experience following the die off of algae in our reservoirs. We will do this through improved water quality monitoring and proactive selection of raw water sources which will help dilute or avoid treating and supplying taste-affected water. We will also invest in the treatment to remove this taste at our water treatment works.

What do we want to achieve?

Customers trust that our drinking water looks good and tastes good

How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Water capital maintenance	We will ensure the stable operating performance of our assets by developing an efficient long term capital maintenance programme. Agility, our asset management system, will be used to develop a more efficient programme by prioritising spend on the basis of asset condition and the risk of service failure. This will inform our business plan review in 2020.	**Safe & Good to Drink** **Firm Financial Foundations**	**Ongoing & 2020**
Site security	We will invest further in the security of our critical water assets to reduce the risk of deliberate contamination of our water supply.	**Safe & Good to Drink** **Sufficient & Resilient**	**Ongoing**
Robust, risk-based compliance sampling	Our sampling regime will provide the Office of Environmental Health and Pollution Regulation with transparent and quality assured water quality performance information. It will also be externally audited by a UK Regulator in consultation with the Director of Environmental Health and Pollution Regulation	**Safe & Good to Drink**	**2016 - 2017**
Hydraulic model of our water distribution system	Using water industry expertise we will build a hydraulic model of our water supply network and develop a Guernsey Water modelling capability within our Asset Management team. This model will support the delivery of several other initiatives under Safe & Good to Drink and is fundamental to this outcome.	**Safe & Good to Drink** **Sufficient & Resilient**	**2016 - 2017**
Contingency & emergency planning	We will work with supermarkets (which stock bottled water) and Jersey Water to further develop and test our contingency plans for the provision of alternative water supplies in the event of an emergency - such as contamination of the water supply. We will also ensure that our employees understand their role in the context of an emergency.	**Safe & Good to Drink** **Sufficient & Resilient**	**2016 - 2018**
Develop and deliver a water treatment strategy	We will employ a water industry consultant to work with Guernsey Water operational staff to develop our water treatment strategy. The project will be managed by Guernsey Water. The strategy will address current and future water quality risks to maximise the value of our existing water treatment works. It will also help determine the optimum operational strategy for our works given the whole life cost of both current assets and future investment in treatment improvements. The strategy will be delivered by our engineering and water production teams.	**Safe & Good to Drink** **Firm Financial Foundations** **Sufficient & Resilient**	**2016 - 2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Drinking water safety planning	Source-to-tap water quality risks will be identified and managed through Drinking Water Safety Planning. This will be carried out using existing expertise in Guernsey Water. We will also ensure our water safety planning process is in line with the UK water industry and is externally audited by a UK Regulator in consultation with the Director of Environmental Health and Pollution Regulation.	**Safe & Good to Drink** **Sufficient & Resilient** **Protect Our Environment**	**2016 - 2020**
Quality assurance	Our operational policy and procedures will be developed in consultation with the Office of Environmental Health and Pollution Regulation. Where appropriate they will also be externally audited by a UK Regulator. We will apply the principles of continuous improvement and seek accreditation for our quality management system.	**Safe & Good to Drink** **Sufficient & Resilient**	**2016 & Ongoing**
Distribution network PPM (Planned Preventative Maintenance)	Using a hydraulic model of our water distribution system we will develop a better targeted, water quality-derived programme of water mains flushing and treated water storage reservoir cleaning to help prevent water quality incidents.	**Safe & Good to Drink** **Sufficient & Resilient**	**2016 & Ongoing**
Online water quality monitoring	We will install online monitors to provide live information on the main water quality risks identified in our drinking water safety plans. This will inform operational decisions to proactively address potential customer issues before they escalate.	**Safe & Good to Drink** **Sufficient & Resilient**	**2017**
Water byelaws guidance & approved plumber scheme	Our water bylaws will be kept up to date and targeted at high risk areas through supplementary guidance provided by Guernsey Water. We will also investigate working with insurance companies in Guernsey to develop an approval scheme for plumbers. This will help reduce water quality risks and water damage due to leaks in customers' homes.	**Safe & Good to Drink** **Sufficient & Resilient**	**2017**
Disinfection strategy	Using a hydraulic model of our water distribution system we will optimise our water treatment processes and treated water storage reservoirs to reduce the amount of disinfection we provide without compromising bacteriological compliance.	**Safe & Good to Drink** **Firm Financial Foundations** **Sufficient & Resilient**	**2017 - 2018**
License to Operate – core competency & professionalism	Ensure that our staff are competent, professional and engender trust from our customers. All operators and their managers will train for their Licence to Operate. We will draw upon experience in other UK water companies to develop this training and consider sharing delivery with Jersey Water.	**Safe & Good to Drink** **Valued by Customers**	**2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Reservoir water quality management	In line with our drinking water safety plans we will investigate opportunities for improving the quality of the water stored in our reservoirs through catchment protection and source control techniques. This will protect our water resources and potentially reduce the cost of water treatment and water quality-related customer complaints.	**Safe & Good to Drink** **Sufficient & Resilient** **Valued by Customers** **Protect Our Environment** **Firm Financial Foundations**	**2019**
Water supply law review	Bring Guernsey's water supply law in line with modern legislation providing Guernsey Water and the Director of Environmental Health and Pollution Regulation with the powers and responsibilities to drive improvements in water management that will benefit both our customers and the environment.	**Safe & Good to Drink** **Valued by Customers** **Effective Drainage** **Protect Our Environment** **Sufficient & Resilient**	**2020**

WATER TREATMENT STRATEGY

Table 3 shows that we have planned a £2 million investment in the delivery of our water treatment strategy which would involve refurbishment of Juas and potential decommissioning of our Longue Hougue WTW. This is a significant investment that will address compliance issues associated with disinfection by-products and taste-related water quality complaints associated with the breakdown of algae in our reservoirs. However, efficiency is also a very important purpose for this strategy.

Decommissioning Longue Hougue would save an estimated £2.6 million of capital investment by avoiding the cost of essential improvements to operational processes and membrane replacement once they reach the end of their life which is expected to be before 2024. In addition significant savings in operational costs will be realised as the unit cost of producing water at a refurbished Juas WTW is expected to be around half the cost of producing water at Longue Hougue.

Our strategy also suggests that operating St Saviours as a secondary water treatment works to manage peak demand will also result in significant savings in operational cost. This is because, with less reliance on our energy intensive, high maintenance membrane plants, the overall unit cost of treating water would reduce considerably if our primary sources of treated water came from our more traditional water treatment processes at Kings Mills and Juas.

Further work is needed to refine the proposals within this strategy and develop a full business case before we commit to this investment. However, delivering this strategy is expected to be important for supplying water that is 'safe and good to drink' and achieve 'firm financial foundations'.

How will we measure our performance?

Overall percentage drinking water compliance against DWI MAC (Maximum Admissible Concentrations)

- Target 100 %
    - 100% WTW samples compliant with bacteriological and chemical MAC
    - 100% Service reservoir samples compliant with bacteriological and chemical MAC
    - 100% Distribution zone samples compliant with bacteriological and chemical MAC

Number of water quality related customer complaints

- Target 40% reduction by end of 2025 (in line with last 10 years of improvement in England & Wales)

What resources will be required?

In 2015 our business reorganisation created a Water Quality Risk Management team which will be fundamental to the delivery of our safe and good to drink outcome. This team will also lead our preparations for compliance with the emerging WPO which will also be important for our effective drainage and protect our environment outcomes.

Table 3 shows our capital investment needs for 'safe and good to drink'. In addition to investing in delivery of our water treatment strategy £750k has been planned for the replacement of the membranes used to treat our water at St Saviours water treatment works. These membranes were replaced in 2015 and, based on historical operational experience, we expect them to last around 10 years. As a result of our water treatment strategy we are recommending that St Saviours switches from being a primary to a secondary water treatment works which only operates to manage peak demand. This will reduce operating costs and extend the life of our recently replaced membranes potentially deferring this investment to our next business planning period.

TABLE 3. SAFE AND GOOD TO DRINK INVESTMENT PROGRAMME

Safe & Good to Drink	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Refurbishment works at Juas in line with WTS	500	750	750	-	-	-	-	-	-	-	2,000	2,000
Kings Mills WTW PAC Dosing	-	-	500	-	-	-	-	-	-	-	500	500
Carry Out Service Reservoir Inspections	150	-	-	-	-	-	200	-	-	-	150	350
Membrane Replacement and General Modifications to St Saviours	-	-	-	-	-	-	-	-	-	750	-	750
Water Treatment Minor Capital	50	50	50	50	50	50	50	50	50	50	250	500
Treated water resilience - investigation (post water model)	-	15	15	-	-	-	-	-	-	-	30	30
Appropriate and robust Sampling regime	-	-	-	-	-	-	-	-	-	-	-	-
Robust on-line WQ monitoring	15	15	15	15	-	-	-	-	-	-	60	60
Contingency / emergency planning (Response Plans)	15	10	-	-	-	-	-	-	-	-	25	25
Site Security	25	25	25	25	25	25	25	25	25	25	125	250
Network PPM	10	10	10	10	10	10	10	10	10	10	50	100
Disinfection Strategy	10	-	10	350	-	-	-	-	-	-	370	370
Sub-TOTAL	**775**	**875**	**1,375**	**450**	**85**	**85**	**285**	**85**	**85**	**835**	**3,560**	**4,935**

3. EFFECTIVE DRAINAGE

What does this mean?

Drainage conveys water from land via streams to the sea and from properties via sewers to our BGWwC where it receives preliminary treatment before being returned safely to the environment. Guernsey Water works closely with parish Constables and Douzaines to maintain effective drainage via streams. We also have a service level agreement with States Works for the maintenance of our sewerage network which includes our wastewater pumping stations and provision of our cesspit emptying service.

Drainage is complex as it is an open system and, in addition to wastewater from our customers' homes, it also receives rain water from roof and road drainage. Rainfall run off is difficult to manage; its impact has increased exponentially in recent years due to the development of new homes, offices and paving over of driveways and car parks. This impact will be further exacerbated by climate change.

The storm water that runs off impermeable surfaces, such as roofs and roads, can exceed the capacity of our sewers, spilling dilute wastewater into our coastal waters via combined sewer overflows. These overflows help prevent sewer flooding but must be designed to protect the environment from their discharges. Occasionally more extreme rainfall can also cause sewer flooding which is one of the worst service failures for customers to experience.

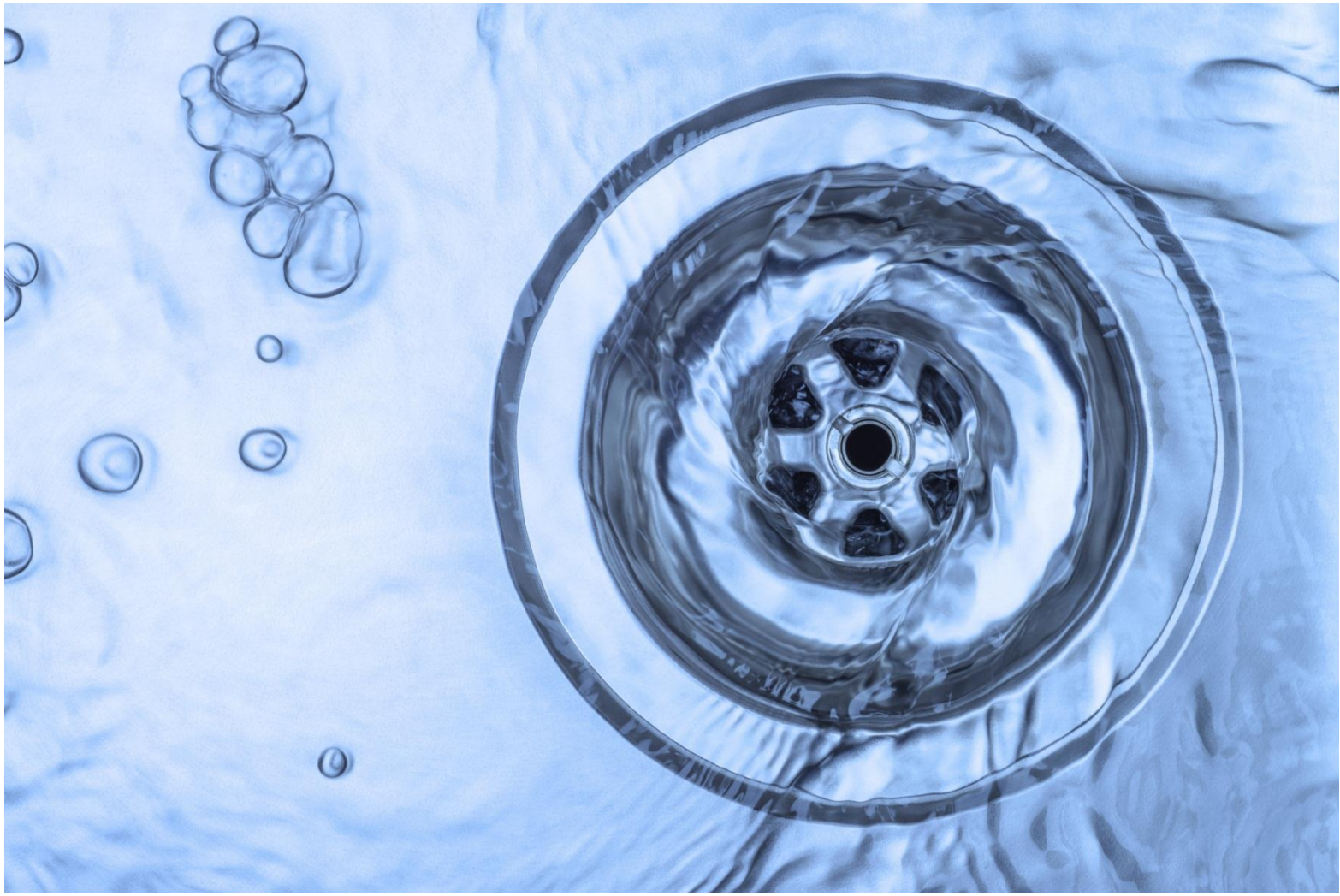
Guernsey Water maintains a register of all properties at risk from sewer flooding and is committed to reducing this risk to the acceptable levels recognised within the UK water industry. This requires a thorough understanding of the current and future performance of our sewerage system which we are developing through hydraulic modelling.

Because there are so many influences over the amount of water that gets into our drainage systems we cannot provide effective drainage without effective collaboration which Guernsey Water will lead. In particular we will work closely with planners and developers to ensure that new development does not have a detrimental impact on drainage systems.

It is not possible to prevent all flooding as the cost of protection from the most extreme rainfall events is prohibitive. Therefore we will work closely with customers to ensure any property damage is minimised and we will also work closely with responders such as Guernsey Fire and Rescue, States Works, insurers and property remediation experts to ensure effective support is available to anyone that suffers from flooding.

What do we want to achieve?

Customers are protected from flooding and wastewater is returned safely to the environment



How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Wastewater Capital Maintenance	We will ensure the stable operating performance of our assets by developing an efficient long term capital maintenance programme. Agility, our asset management system, will be used to drive efficiency through this programme by prioritising spend on the basis of asset condition and the risk of service failure. This will inform our business plan review in 2020.	**Effective Drainage Protect our Environment Sufficient & Resilient Firm Financial Foundations**	**Ongoing & 2020**
Wastewater SCADA (Supervisory Control & Data Acquisition) for Pumping Stations	Delivery of this system will be project managed by Guernsey Water using our specialist partners for instrumentation and control. It will be developed in close consultation with wastewater operators from States Works. It will provide real time control and historical performance information that will enable us to optimise the operation and maintenance of our pumping stations for efficiency and compliance with the pending WPO.	**Effective Drainage Protect our Environment Sufficient & Resilient Firm Financial Foundations**	**2016**
CSO (Combined Sewer Overflow) Monitoring	We will use instrumentation to provide online monitoring of the frequency, duration and volume of overflows from our wastewater system. We will use our SCADA system to record this data to inform our bathing water management initiative. It will also help ensure our CSOs do not operate during dry weather and comply with the pending WPO.	**Effective Drainage Protect our Environment Sufficient & Resilient**	**2016**
Promote SuDS (Sustainable Drainage Systems) for storm water management	We will work with recognised experts to develop guidance for planners and builders to ensure SuDS meet consistently high standards on new developments. We will work with our contractors to deliver exemplar retro-fit SuDS schemes to facilitate learning and leading the take up of SuDS by others. We will retrofit SuDS proactively where they bring the most benefit using them to complement flood risk and pollution management schemes in problem areas such as St Peter Port. We will also promote SuDS that divert rainwater from our sewerage system as cost effective opportunities arise adapting our drainage systems to climate change incrementally over time.	**Effective Drainage Protect our Environment Sufficient & Resilient**	**2016 - 2017**
Wastewater Hydraulic Model	We will continue to develop and maintain our wastewater hydraulic model. We will use it to develop programmes of investment in the maintenance and improvement of our sewerage system which will be prioritised according to cost and benefit. This will include the development of a modelled solution to flooding for every property on our flood register. Together with our surface water modelling this will enable the development of an integrated drainage strategy.	**Effective Drainage Protect our Environment Sufficient & Resilient**	**2016 - 2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Surface Water Modelling	We will continue to develop our surface water hydraulic model. We will use it to improve our understanding of the interaction between streams and our surface water drainage network. It will help us to target critical drainage assets for planned preventative maintenance and determine the effectiveness of SuDS for the mitigation of climate change. It will also help manage the impact of surface water drainage from new development on flood risk from streams. Together with our wastewater hydraulic model this will enable the development of an integrated drainage strategy.	**Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2018**
Hydrogen Sulphide Management	Hydrogen sulphide gas corrodes our wastewater assets, can be the cause of odour complaints and is a health and safety risk to our employees and contractors. We will manage it proactively by learning from best practice elsewhere monitoring and treating it as well as using resistant materials when maintaining and improving susceptible assets. We will also rationalise and improve our cesspit emptying points to reduce the amount of hydrogen sulphide produced by cesspit waste.	**Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2018**
Flooding Management Strategy	We will lead a Flood Working Group, made up of several States Departments, to provide a co-ordinated approach to flooding. We will also work with this group to develop a co-ordinated, customer-focused response to flooding.	**Valued by Customers** **Effective Drainage**	**2017**
Fats, Oils & Greases (FOG) and Un-flushable Management	We work with supermarkets to educate their customers on the problems caused by flushing un-flushable wet wipes. We will initiate a focused campaign to change the behaviour of key social groups such as the parents of young children who use wipes and fast food restaurants to minimise the cost of proactive and reactive FOG and un-flushable management within the sewerage system.	**Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2017 Onwards**
Sewerage Network Flow Monitoring	This will help us to further understand how our sewerage system performs during rainfall and to proactively manage flooding by responding to live data and moving flows around our sewerage system. It will also identify high power consuming assets for energy efficiency improvements.	**Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Predictive Flood Modelling & Customer Alerts	We will utilise 'FloodNet' software to predict the response of our sewerage network to rainfall radar data and prepare by managing flows to increase available capacity; issuing flood warnings to customers that sign up to this service. In tandem with this we will also help our customers to understand flood risk and make information on what they can do to help protect themselves more readily available. This will also require groundwater monitoring in known risk areas due to help us understand: • Surface water run off due to soil saturation • Groundwater infiltration into our streams and sewers	**Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2020 - 2022**

FLOODING MANAGEMENT STRATEGY

Our collaborative response to flooding must be designed to meet customer needs while balancing service, cost and risk. Where flooding to properties occurs we should have a package of measures that are focused on helping our customer. Our customer contact team will be trained to ensure they are confident when supporting customers who are going through the distress of having been flooded. They will also understand what customers are experiencing and be able to provide them with important information on:

1. How quickly they can expect a visit from one of our customer liaison officers or other Guernsey Water representative. In the event of widespread flooding we will prioritise internal foul flooding of homes and businesses first before external sewer flooding
2. What we will do to arrange the clean-up of the flood affected area
3. Whether the customer should document any damage to property
4. What steps we will take next
5. Contacting insurers
6. What they can do to improve protection of their property before, during and after a flooding event

Following any recorded flooding event the property will be added to our Flood Risk Register which will contain the following example:

Property	Address	Date of Incident(s)	Internal/ External	Rainfall return period	Cause of flooding	Mitigation in place	Permanent solution status
No.1	x road, x parish	Sept 2012	Internal	1:1	Blockage in public sewer	Yes	Investigation underway
No.2	x road, x parish	Oct 2013	Internal	1:10	Hydraulic Incapacity	No	Sewer replacement underway

Guernsey Water is not responsible for sea defence but will assist in an emergency.

How will we measure our performance?

Percentage of properties on the Flood Risk Register with flood mitigation (property protection) measures in place

- Annual target to be determined

Number of properties removed from the Flood Risk Register

- Annual target to be determined

Number of spills from our combined sewer overflows during dry weather

- Target = zero

What resources will be required?

Our business reorganisation in 2015 has provided tactical resource to enable a more proactive, performance-based approach to the management of our wastewater systems. This is vital if we are to maximise the value of our existing assets by operating them more efficiently and investing in improvements where and when they are needed the most.

Table 4 shows that, in total, we plan to spend just over £29 million over 10 years on making our drainage systems more effective. This is the primary area of focus for Guernsey Water for the next decade. Our aim during this period will be to reverse the deterioration of our drainage systems and invest in stabilising their condition.

Sewer flooding is one of the worst service failures for our customers to experience and must be tackled during the lifetime of this plan. We are planning to invest £4.6 million in reducing the risk of flooding to properties on our flooding register between 2017 and 2020. This will be completed in conjunction with our CSO improvements to 'protect our environment'. Both of these investment programmes will need to be delivered together in accordance with the integrated drainage strategy developed for our 'sufficient and resilient' outcome. To develop solutions our initial requirement is to understand the performance of our sewerage network through the use of a fully verified and calibrated hydraulic model. From the model's results we can consider what is required to provide acceptable protection against flooding and reduce the impact of pollution.

We do not expect simple solutions to our flooding problems and significant provision of storm water storage, upsizing of sewers and increased pumping capacity is likely to be needed. As many of the issues are within built up areas in St Peter Port and St Sampson disruption is expected to be substantial. Extensive planning, public engagement and careful management of any solution will be of paramount importance.

Our sewer rehabilitation programme is expected to continue at an annual cost of £0.75 million until 2019 when we expect to reduce this annual investment to £0.5 million due to stabilisation of the condition of our sewers at this time. Nevertheless we still expect to spend £6.75 million on sewer rehabilitation and manhole refurbishment plus an additional £5 million on wastewater pumping station refurbishment during the course of this plan.

We also plan to spend just over £4 million on reducing infiltration and implementing more sustainable storm water drainage techniques;

both will increase the available capacity of our existing sewerage system - realising better value from assets that we already have over the longer period of time. This will also adapt our drainage systems to climate change by reducing their vulnerability to the shorter duration, more intense rainfall events that we are already starting to experience.

In previous plans we have prioritised sewer network extensions to provide connections to those properties not currently served by our 'main drain'; however the costs of this are high when compared with the limited environmental and public health benefits. Therefore a detailed review of this strategy was undertaken and a report submitted to the States assembly. As a result, our previous target of a 95% customer connection rate has been rescinded in favour of including this activity in our investment plans as other priorities allow. This means that we have not planned to carry out any further sewer extensions before 2022, which will allow us to focus our resources on tackling the higher priorities of flooding and pollution from sewer overflows.

TABLE 4. EFFECTIVE DRAINAGE INVESTMENT PROGRAMME

Efficient Drainage	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Sewer rehabilitation	750	750	750	500	500	500	500	500	500	500	3,250	5,750
Stream culvert maintenance	10	10	10	10	10	10	10	10	10	10	50	100
Manhole replacement	100	100	100	100	100	100	100	100	100	100	500	1,000
Chamber cover replacement	40	40	40	40	40	40	40	40	40	40	200	400
Emptying point improvements	150	150	150	-	-	-	-	-	-	-	450	450
Gate valve replacement	10	10	10	10	10	10	10	10	10	10	50	100
Flap valve maintenance	15	15	15	15	15	15	15	15	15	15	75	150
FOG Management	10	-	-	-	-	-	-	-	-	-	10	10
Operational capital	75	75	75	75	75	75	75	75	75	75	375	750
Surface water surveys & modelling	80	80	80	-	-	-	-	-	-	-	240	240
Flooding (remove properties from the 'at risk' register)	-	100	500	1,000	1,500	1,500	-	-	-	-	3,100	4,600
SCADA "lite" for network	-	150	100	-	-	-	-	-	-	-	250	250
Predictive flood modelling in response to rainfall alerts	-	-	-	150	100	-	-	-	-	-	250	250
Flow monitoring	10	-	-	-	-	10	-	-	-	-	10	20
CCTV survey	-	-	-	-	100	-	-	-	-	-	100	100
PS refurbishment (incl. H&S & electrical refurb)	500	500	500	500	500	500	500	500	500	500	2,500	5,000
H&S improvements	25	25	25	25	25	25	25	25	25	25	125	250
Operational capital	75	75	75	75	75	75	75	75	75	75	375	750
Network extensions	-	-	-	-	-	-	1,000	1,000	1,000	1,000	-	4,000
Infiltration reduction	50	200	50	200	50	200	50	200	50	200	550	1,250
Long Term Drainage Plan (incl Integrated Drainage Strategy)	50	50	-	-	-	-	-	-	-	-	100	100
Sustainable Drainage (incl SW Separation)	250	300	300	300	300	300	300	300	300	300	1,450	2,950
Flooding (mitigation)	50	50	50	50	50	20	20	20	20	20	250	350
Sub-TOTAL	**2,250**	**2,680**	**2,830**	**3,050**	**3,450**	**3,380**	**2,720**	**2,870**	**2,720**	**2,870**	**14,260**	**28,820**

4. PROTECT OUR ENVIRONMENT

What does this mean?

We borrow water from the environment when we collect it from streams, store it in reservoirs, treat it, supply it to our customers, collect it again once it has been used, then convey it to our BGWwC where it receives preliminary treatment before we return it safely to the environment again.

This means that we are responsible for the water cycle from source-to-sea when it is subjected to the greatest human influence. Our aim is to ensure that our operations do not have a detrimental impact on the water environment which is particularly important for our island community as water plays such a vital role in our everyday lives. We also believe that it is important for us to help our customers understand the environmental impact of the way that they use water. They can help us protect the environment by using water wisely and keeping fat and wet-wipes out of our sewers.

There are clear and strong links between protecting our environment, providing catchment protection to help ensure our water supply is 'safe and good to drink' and providing 'effective drainage' that does not spill from sewer overflows and pollute our coastal waters. However, there are also many other aspects of our operations that affect the environment such as the waste we produce and our consumption of power and chemicals.

Efficient use of valuable water reduces the amount of resources we consume and carbon we emit through our operations. It also reduces the amount of water we need to borrow from the environment, reduces the amount of wastewater we discharge and ensures that our water and wastewater infrastructure has sufficient capacity for longer. Therefore managing the demands on our infrastructure has multiple financial and environmental benefits; it can also help our customers control their bills.

The key areas of focus that will help us to meet our environmental targets and responsibilities are:

- Compliance with discharge permits issued under the forthcoming WPO. In line with best regulatory practice in the UK, this is likely to require ongoing 'operator self-monitoring' by Guernsey Water and regular audit of our operational and quality management systems. As a responsible operator we will work closely with the Director of Environmental Health and Pollution Regulation to develop these control systems

- Our integrated drainage strategy will provide direction for the delivery of a programme of investment to improve all combined sewer overflows that are found to be "unsatisfactory" due to the risk they pose to the frequency and volume of wastewater they discharge and the impact this has on our coastal waters.

- Climate change will impact on both the efficacy of our drainage systems and our ability to collect water resources so it is a significant long term risk for Guernsey Water. We believe that as well as adapting our infrastructure we must also play our part in mitigating the impact of climate change. Currently around 11.5

% of our total expenditure is spent on power to supply our operations and 2% is spent on chemicals. Combined, these constitute a considerable proportion of our operational carbon emissions. By focusing on more efficient use of power, chemicals, transport and other resources we can reduce both our carbon emissions and operating costs which also helps deliver our 'firm financial foundations' outcome. We intend to seek opportunities to reduce our power consumption by 10% which will also significantly reduce our carbon emissions.

- Our extensive water and wastewater infrastructure contains significant embedded carbon. By minimising the amount of embedded carbon in our capital projects we can reduce waste, carbon emissions and the cost of our capital programme. For example, our integrated drainage strategy will promote sustainable drainage of storm water which involves the use of above ground 'green' infrastructure to permeate rainfall into the ground or a nearby water course, slowing it up and working with nature rather than using power to pump it through our underground system of pipes to our BGWwC. Sustainable drainage produces less operational and embedded carbon.

What do we want to achieve?

Water quality is protected from source to sea and our environmental impact is carefully managed

How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Catchment Management	Prevention of stream and groundwater pollution that could prevent our water supply from being 'safe and good to drink'. Adopt a risk-based approach to managing the application of pesticides, herbicides and fertilisers while seeking to prohibit the use of any high risk chemicals. Audit high risk oil installations and poorly maintained cesspits. Ensure our road infrastructure is appropriately treated during cold weather. Work with landowners and the public to identify and address bathing water quality risks within the catchments of streams that could affect bathing beaches.	**Protect our Environment** **Sufficient & Resilient** **Safe & Good to Drink** **Effective Drainage**	**Ongoing**
Bathing Water Partnership	We will continue to actively collaborate with this partnership to protect and improve the quality of our island's bathing waters, aiming to secure a minimum of 'good' quality status of all our bathing waters in comparison to EU bathing water directive standards.	**Protect our Environment** **Effective Drainage**	**Ongoing**
Trade Effluent Management	Work closely with the Director of Environmental Health and Pollution Regulation to ensure that the required powers are reflected in the WPO ordinance and work with business customers to develop a regime for controlling trade effluent that is proportionate to our island context and protects our environment.	**Protect our Environment** **Valued by Customers**	**2016 - 2017**
Bathing Water Management	We will undertake proactive monitoring and sampling to further develop our coastal model then, working with Intertek, assess the combined impact of our wastewater discharges and streams. We will use this information to inform the public about bathing water quality risk following wet weather events.	**Protect our Environment**	**2016 – 2017**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Demand Management Strategy	Develop a strategy to inform our review of this business plan that co-ordinates the delivery of our demand management measures: Water supply • Leakage reduction • Pressure management • Customer education on water efficiency Wastewater collection • Infiltration reduction • Storm water management • Customer education on disposal of fats and un-flushable wipes This will help our customers to use water wisely while also doing our bit to avoid waste, keep leakage, infiltration and surface water drainage under control.	**Protect our Environment** **Sufficient & Resilient** **Valued by Customers** **Effective drainage** **Firm Financial Foundations**	**2016 – 2020 onwards**
Office Waste Minimisation Strategy	Ensure that waste production and consumption of resources is minimised within our office environment. For example, by reducing power consumption, using less paper and recycling.	**Protect our Environment** **Firm Financial Foundations**	**2017 - 2018**
Carbon Management Strategy	We will evaluate our carbon production and prepare a strategy for reducing waste and using our resources and power more efficiently thereby reducing our operational and embedded carbon generation.	**Protect our Environment** **Firm Financial Foundations**	**2019 onwards**

Key performance indicators

- % reduction in office waste (tonnes)
  - Target to be determined
- Demand management measure (2018 KPI to be developed in line with water resource management plan and integrated drainage strategy)
  - Target to be determined
- % carbon reduction (2020 KPI to be developed through preparation of carbon reduction plan)
  - Embedded carbon target to be determined
  - Operational carbon target to be determined
- Number of CSOs that are deemed 'unsatisfactory' by our environmental regulator
  - Target = zero
- Public informed of all CSO spills that put bathing water quality at risk (2018 KPI to be developed through Bathing Water Management initiative)
  - Target 100 %

What resources will be required?

Guernsey Water's business reorganisation in 2015 created our Water Quality Risk Management team. This team will be important for the delivery of many 'protect our environment' initiatives and will lead our preparations for compliance with the emerging WPO. Greater accountability and transparency is expected as we take on 'operator self-monitoring' and responsibility for catchment management and trade effluent control. This team needs to work across our business to ensure we are prepared for this.

Table 5 shows the capital programme that will be delivered to help us protect our environment. In total over £9 million has been allocated including £6.5 million between 2016 and 2020 to improve our CSOs. This includes £2 million to improve the performance of our Harbour St Sampson's (HSS) pumping station by the end of 2018. HSS is a critical asset as it drains a large area of our low lying northern parishes including the urban centre of St Sampson.

HSS is in very poor condition, poses significant health & safety risks to the staff that operate and maintain it and continues to deteriorate. There are sewer flooding problems and pollution risks from CSOs within its drainage catchment which suffers from significant infiltration and tidal ingress. There are also resilience issues with the rising main that runs from HSS to BGWwC through the fuel storage facilities along Bulwer Avenue. This rising main burst in December 2014 necessitating a complicated and costly repair due to access difficulties and the constraints of working in this hazardous area.

Addressing all of these interrelated issues without increasing the risk of sewer flooding downstream of HSS is complex, but a strategy is being developed and we will commence delivery in 2016. The first phase requires extending and upgrading one of our pumped rising mains and upsizing a length of downstream sewer, which will enable HSS to pump greater flows and reduce the risk of pollution from CSOs to the north and south of the entrance to the harbour. At the same time we will investigate whether provision of a new sewer on the north side of St Sampson's harbour will divert flows away from an area that is at risk of flooding.

We have also included almost £1 million to address the last remaining continuous discharge that serves part of the Fort George housing area. This small discharge has been the subject of States debate that determined it should be intercepted and normal flows diverted to the main sewer network discharging to the BGWwC. However this is not straightforward due to the risks associated with construction in an area that has required cliff stabilisation work. Other options are being investigated such as localised treatment, screening to equivalent standards as those at BGWwC or maintaining the discharge if the environmental impact on receiving coastal waters is proven to be acceptable.

TABLE 5. PROTECT OUR ENVIRONMENT INVESTMENT PROGRAMME

Protect our Environment	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
HSS Improvements	1,000	1,000	-	-	-	-	-	-	-	-	2,000	2,000
Outfall refurbishment (SW only)	50	50	-	50	-	50	-	50	-	50	150	300
Water Quality modelling	10	10	10	10	10	10	10	10	10	10	50	100
Operational Capital	30	30	30	30	30	30	30	30	30	30	150	300
Fort George	400	255	-	-	-	-	-	-	-	-	655	655
Bathing Water Quality Management (incl. Beach Management System - Intertek)	50	50	15	15	15	-	-	-	-	-	145	145
CSO Modelling Assessment	50	-	-	-	-	-	-	-	-	-	50	50
CSO improvements design	-	100	250	-	-	-	-	-	-	-	350	350
CSO / BWQ improvements	-	-	500	1,000	1,500	1,500	-	-	-	-	3,000	4,500
Belle Greve Ph4 - LSO	1,000	-	-	-	-	-	-	-	-	-	1,000	1,000
CSO modelling	50	-	-	-	-	-	-	-	-	-	50	50
Odour mitigation	10	10	-	-	-	-	-	-	-	-	20	20
Sub-TOTAL	**2,650**	**1,505**	**805**	**1,105**	**1,555**	**1,590**	**40**	**90**	**40**	**90**	**7,620**	**9,470**

5. SUFFICIENT & RESILIENT

What does this mean?

Increasing the capacity of our water and wastewater systems takes time and to do this efficiently, without compromising the quality of our service, requires co-ordinated delivery that progressively meets our island's needs over the long term. This means we need to start planning ahead now.

The challenge we face is dealing with uncertainty as nobody can say precisely what the demand for water will be in 25 years and nobody can tell exactly what the impact of climate change will be on our water resources and drainage systems. We need to plan for a range of potential future scenarios. In this way we will prepare long-term water and wastewater plans that are refined at regular intervals. These plans will guide short-term decisions so we are spending our customers' money wisely and moving towards our long term aims without regretting any investments along the way.

Our Water Resources Management Plan (WRMP) will guide future investment in our water resources. It will be reviewed every five years or following any material changes that affect it. It will also be prepared in consultation with our customers to give them a much better appreciation of how likely it will be for a drought to restrict the amount of water they can use and how much it would cost them to reduce this likelihood.

Our WRMP will also include a review of our future need for Les Vardes Quarry which is appropriately allocated for water storage in Guernsey's Island Infrastructure Plan. If more detailed assessment confirms the need to bring Les Vardes into service significant investment in planning for this could be required towards the end of this 10 year business planning period. This has not been allowed for within our plan at this stage.

In tandem with our WRMP we will also develop a drought plan that will set out the actions to be taken at different levels of water depletion to ensure we maximise our resources during times of drought, by keeping leakage to a minimum and by helping our customers to use less water for example. Ultimately, if resources are sufficiently low, the plan would call for water use restrictions.

Our WRMP will also inform our demand management strategy which is a 'protect our environment' initiative. It will cover water efficiency and metering for both our domestic and business customers. This will include an allowance for grey-water recycling and rainwater harvesting which we will support where plumbing standards to protect drinking water quality are met. It will also cover leakage and pressure management. This demand management strategy will inform the five-yearly review of our business plan.

Our integrated drainage strategy will guide future investment in the long term drainage needs of our island, in particular our urban centres of St Peter Port and St Sampson. This will bring together the management of streams, surface water and foul water where they affect each other. It will include measures to maintain and improve our existing sewerage system to ensure its current deteriorating condition is stabilised. It will help us plan for the new development set out in our Island Development Plan. It will also set out how we will manage storm water through sustainable drainage techniques which will be more cost effective in the long-term if we

gradually adapt our drainage systems to the more intense, shorter duration rainfall we expect in the future due to climate change.

To be more resilient we will also prepare for unplanned events and emergency situations. We cannot protect ourselves from everything as the burden of cost on our customers would be too great. However it would be right for our customers to expect that we are prepared to deal with the failure of critical parts of our water and wastewater systems even if that is due to fire, flood, drought or any other event that may be caused by something that is outside our control. So we will invest in making those critical aspects of our service more secure and resilient.

What do we want to achieve?

Our water and wastewater systems are adapted to climate change and have sufficient capacity to meet the future needs of our island

How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Develop a Water Resource Management Plan	This plan will help us determine how we meet the long-term water demands of our island. To deliver it operational staff, with expert knowledge of our systems, will work alongside specialists with experience of best practice water resource planning in similar jurisdictions to ours. The plan will identify the risks of water use restrictions and their frequency. We will consult with our customers to determine how much they are willing to pay to mitigate these risks and protect themselves from water use restrictions.	**Sufficient & Resilient** **Firm Financial Foundations**	**2016 - 2017**
Usable water investigations	A sedimentation survey of our St Saviours reservoir and water quality survey at different depths of our Longue Hougue reservoir to test assumptions made on usable water within our water resource management plan.	**Sufficient & Resilient**	**2016 - 2017**
Raw Water Strategy	We will invest in refurbishing and extending our network of raw water pipes. Much of this will be completed during the early part of our plan. Replacement of the main from Kings Mills WTW to Saumarez Tank will improve our ability to transfer water between the north and south of the island. This will be completed towards the end of our plan to ensure this significant investment aligns with our water resource management plan and our water treatment strategy.	**Sufficient & Resilient** **Valued by Customers** **Safe & Good to Drink**	**2016 - 2017** **2022 - 2025**
Develop an Integrated Drainage Strategy	This will meet the long-term wastewater collection demands of our sewerage and stream systems, allow for new development and help us adapt to climate change. We will consult with customers on the level of protection from flooding that could be provided. We will work with expert advisors from the UK water industry to develop our own expertise and that of our contractors where new sustainable drainage techniques are employed.	**Sufficient & Resilient** **Valued by Customers** **Effective Drainage** **Protect our Environment**	**2016 - 2018**
Develop a Drought Plan	This plan will be developed in tandem with our water resource management plan. We will also communicate with our customers to ensure they understand their role in helping protect themselves from drought by reducing their water usage and that water use could be restricted in the event of serious water shortages.	**Sufficient & Resilient** **Valued by Customers**	**2016 - 2017**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Cost benefit assessment for Les Vardes Quarry for water storage quarry	Our water resource management plan will determine if this assessment is required. If so it would also consider opportunities to decommission other water storage quarries.	**Sufficient & Resilient** **Firm Financial Foundations**	**2017 - 2018**
Development of Emergency Response & Recovery Plans	Using our hydraulic modelling we will develop response and recovery plans for our critical water distribution assets. These plans will be developed and tested by our own teams using their expert knowledge of our systems. We will also commission a flooding inundation and emergency draw down assessment to inform emergency planning in the unlikely event of failure of our St Saviour's reservoir dam wall.	**Sufficient & Resilient** **Valued by Customers** **Firm Financial Foundations**	**2016 - 2019**
Treated Water Storage Resilience	We will manage the age of drinking water in our distribution system to optimise disinfection during water treatment and minimise water quality related customer complaints. This may require us to invest in increasing or decreasing the amount of treated water storage we have in our distribution system. This work will inform our disinfection strategy and is dependent upon the development of a hydraulic model that we will use to deliver this initiative in-house. This initiative will inform the review of our business plan in 2020.	**Sufficient & Resilient** **Safe & Good to Drink** **Valued by Customers**	**2019**

INTEGRATED DRAINAGE STRATEGY

There has been a lack of historical investment in the capacity of our drainage systems and ineffective engagement with planners to manage the effects of new development on flood risk. Combined with the growing intensity of storm events this has led to increased prevalence of sewer flooding, particularly in St Peter Port but also other flooding hotspots across the island. Tackling sewer flooding is a clear priority for us during this business planning period. Due to the complexity of drainage systems and the many different authorities and owners that have responsibility for them we will not be able to achieve this alone; collaboration will be vital for success.

We must also start adapting our drainage systems for climate change over the long term as it is becoming clear that whatever allowances we apply to the design of drainage improvements today will be time limited by the effects of climate change in the future. A recent report by the Met Office and Centre for Ecology and Hydrology* after the recent storms in 2014 highlights that a 1 in 125 day rainfall event in the 1960s and 1970s is now predicted to occur much more frequently, around once in every 85 days. The most effective way of achieving adaptation to this over the long-term will be through managing stormwater using sustainable drainage systems (SuDS) that remove rainwater from our sewers or slow down its flow into them by mimicking more natural drainage.

At the end of 2015 we had 138 properties on our sewer flooding register out of approximately 25,000 customers. More work is needed to understand the level of flooding risk for these properties so we can prioritise our investment in reducing sewer flooding. We do not yet know exactly how many of these properties are at high risk of flooding, which according to UK industry standards means flooding once or twice every 10 years. However, we know that this would apply to a significant number of our 138 properties.

For comparison water companies in England and Wales were expected to have a total of 3,641 properties on their high risk property registers for sewer flooding by the end of 2015**, they serve around 50 million customers. Whilst difficult to make an accurate comparison due to the evolving nature of our flooding register, we have sufficient evidence to suggest that we have a higher proportion of customers at risk of sewer flooding than would be expected in England and Wales.

A further driver of investment in our wastewater infrastructure is the risk of pollution from our combined sewer overflows (CSOs). Coastal modelling by Intertek identifies 13 of our CSOs that pose a risk to bathing water quality. In addition, emerging WPO will also require permits to discharge for all the CSOs around our coastline. The requirements of these permits will drive further improvements, such as screening, to these CSOs.

In order to be efficient, our capital programme for reducing flood risk will also seek to deliver additional benefit by improving our CSOs. The two issues will not be considered in isolation, which is important if we are to invest our customers' money wisely. We will also take a strategic approach to these issues within each sewerage catchment, which will be particularly important in St Peter Port and St Sampson where there are numerous flooding and CSOs improvements to be delivered. A piecemeal approach to resolving each issue would be more costly than taking the time to develop a range of complimentary measures, which in combination throughout the sewerage catchment provide an acceptable level of protection from both flooding and pollution. These measures are likely to include sustainable drainage techniques, storm water storage, infrastructure upsizing and in the short term property protection measures to help our customers whilst longer term solutions are delivered.

* Met Office & Centre for Ecology & Hydrology (2014) The Recent Storms & Floods in the UK accessed Jan 2016: *http://www.metoffice.gov.uk/media/pdf/n/i/Recent_Storms_Briefing_Final_07023.pdf*

** Ofwat (2009) Future water and sewerage charges 2010-15: Final determinations accessed Jan 2016: *http://www.ofwat.gov.uk/wp-content/uploads/2015/11/det_pr09_finalfull.pdf*

Key performance indicators

- Volume of water storage as a % of total storage capacity
    - Target = water storage capacity 95% full by 1st April (the end of the winter recharge period)
- Water resource management and drought plans in place
- Number of properties with unplanned water supply interruptions as a percentage of all supplies (weighted according to period of disruption)
    - Target = <0.5%

What resources will be required?

Table 6 shows the indicative costs and timing of the investment needed to deliver our sufficient and resilient initiatives. In total we are planning to spend just over £8 million by the end of 2025, half of which will be spent during the first five years. This will include around £3 million on renewing or refurbishing our raw water mains so water can be transferred between our three water supply zones.

We will also continue to renew old water mains particularly those made from materials that are known to deteriorate at a faster rate, such as asbestos cement and uPVC. In total £2.75 million is planned for our ongoing treated water mains rehabilitation programme which will help manage discolouration complaints and maintain our already excellent mains burst and leakage rates.

Our water resource management plan will review our need for further water storage capacity at Les Vardes and the potential to rationalise our existing quarry assets. This may reduce the £500k we expect to spend on maintaining our water storage quarries between 2021 and 2025, which would consist mainly of stabilisation works.

£750k has also been allowed for contingency and emergency planning. This will fund power resilience at Juas water treatment works and will also enable resilience investigations and potential investment in fire suppression or additional power resilience at other critical sites.

TABLE 6. SUFFICIENT AND RESILIENT INVESTMENT PROGRAMME

Sufficient & Resilient	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Replace Raw Water Main from Moulin Huet to St Andrews	200	150	-	-	-	-	-	-	-	-	350	350
Replace Raw Water Main from Vale Pond to Juas	250	-	-	-	-	-	-	-	-	-	250	250
Replace Raw Water Main from Juas to Longue Hougue	250	500	-	-	-	-	-	-	-	-	750	750
Replace Raw Water Main from Kings Mills to Saumarez Tanks	-	-	-	-	-	-	25	500	500	500	-	1,525
Carry out Stabilising Works at Quarries	-	250	-	-	-	250	-	-	-	250	250	750
Contingency / emergency planning (Standby Generation)	-	-	-	250	-	-	-	-	-	-	250	250
St Saviours Dam Wall Maintenance	4	4	4	4	4	4	4	4	4	4	20	40
WRMP	40	40	40	30	-	-	-	-	-	-	150	150
Drought plan	40	-	-	-	-	-	-	-	-	-	40	40
Les Vardes Feasibility	-	-	40	40	40	-	-	-	-	-	120	120
Water Resources Minor Capital	10	10	-	-	-	-	-	-	-	-	20	20
Microbial Source Tracing (Distribution Pipe Sampling)	10	10	10	10	10	10	10	10	10	10	50	100
Separation of Common Supplies	-	-	20	-	-	20	-	-	20	-	20	60
Water Distribution Extensions	-	-	-	50	-	-	-	50	-	-	50	100
Carry Out Replacement of Watermains	275	275	275	275	275	275	275	275	275	275	1,375	2,750
Water Distribution Minor Capital	25	25	25	25	25	25	25	25	25	25	125	250
Water Network Modelling	150	-	-	-	-	-	-	-	-	-	150	150
Pressure Management	-	100	150	-	-	-	-	-	-	-	250	250
Water efficiency	-	-	10	5	5	-	-	-	-	-	20	20
Sub-TOTAL	**1,254**	**1,364**	**574**	**689**	**359**	**584**	**339**	**864**	**834**	**1,064**	**4,240**	**7,925**

6. FIRM FINANCIAL FOUNDATIONS

What does this mean?

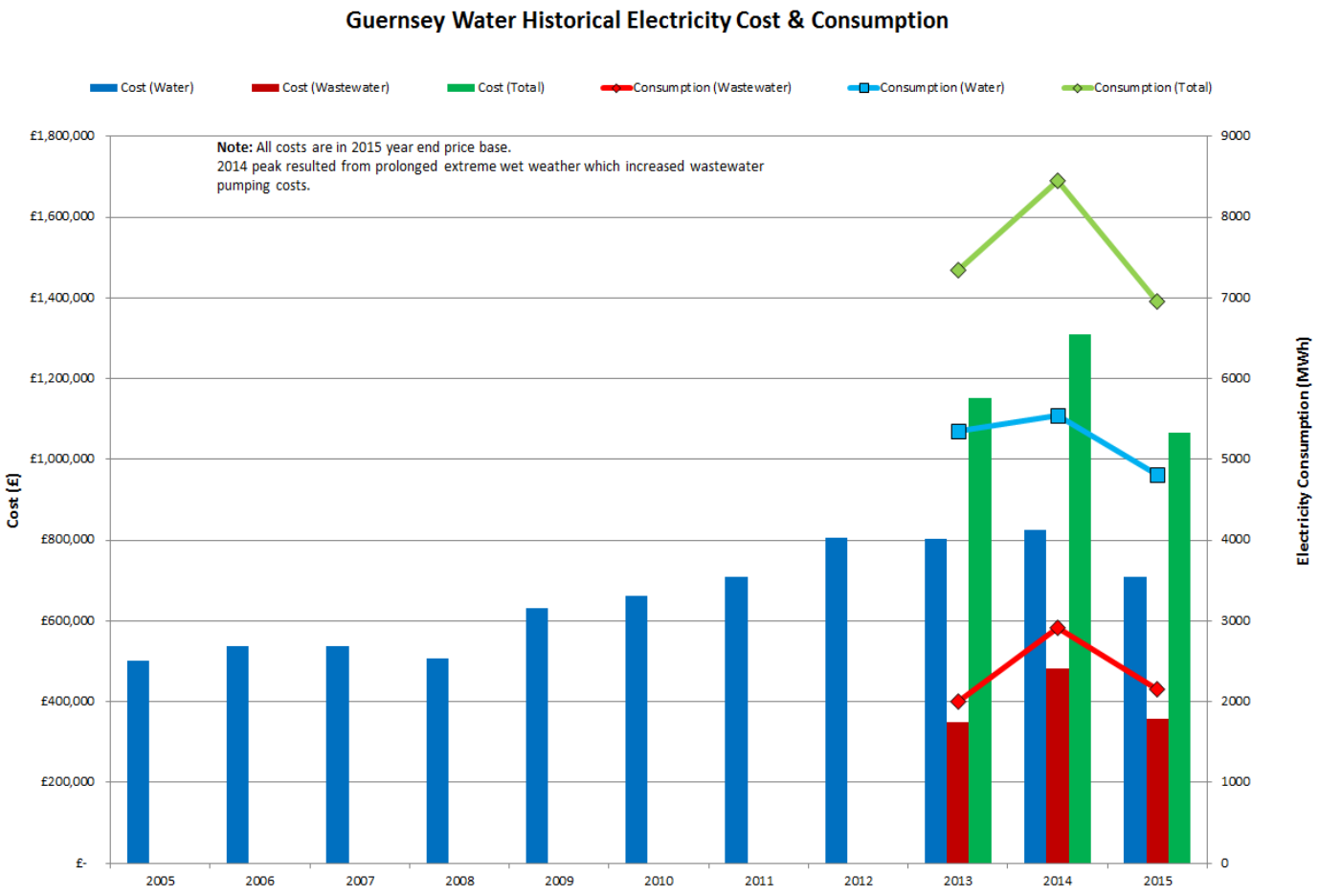
We cannot deliver our outcomes successfully and in an efficient manner without ensuring that Guernsey Water remains on firm financial foundations. This requires a careful balance between income from customers' bills, which must be affordable, expenditure on our service provision and investment in ensuring the stable performance of our water and wastewater assets.

There are many pressures on this balance. We recognise that household and business budgets are stretched so in the short term our aim is to constrain bill increases. However, considerable investment is needed to arrest the deterioration of our wastewater infrastructure. In total we are planning to spend £29 million on providing effective drainage during the course of this plan, which includes plans to tackle sewer flooding. In addition, we have also identified the need for just under £5 million to protect our environment by tackling pollution from our wastewater CSOs. Based on our current 'save to spend' funding model we expect to make this investment and keep bills affordable by drawing down our accumulated cash reserves.

During the latter half of this business plan period we expect upward cost pressures on revenue expenditure and the need for major investment in our wastewater assets to severely challenge the sustainability of no real term increases in bills to customers. However our starting point will always be to find business efficiencies that can be shared with our customers to mitigate the effect of these cost pressures on bills and work on becoming even more efficient has already started.

The cost pressures we face during day-to-day operations include the power we use for managing our water from source-to-sea. The power costs for our water services increased considerably from 2005 to 2012; and again when we took on wastewater services. Power costs comprise around 11.5% of our total annual expenditure so our planned energy efficiency initiative is very important.

CHART 5. OPERATIONAL POWER CONSUMPTION 2005 TO 2015



Appendix 4 shows the breakdown of our income, revenue and capital expenditure. The disparity between income from our water charges and our wastewater costs is evident; around one third of our income comes from our wastewater charge yet around two thirds of our revenue and capital expenditure is allocated to wastewater. This disparity has already driven efficiency within our business as we look to maintain the stable condition of our water assets and address the deteriorating condition of our wastewater assets, without significantly increasing customers' bills.

We expect to review the structure of our charges in the future but not before we have achieved greater efficiency across our business to ensure that they reflect the true cost of service provision. Efficiency will help ensure that customers' bills remain affordable, provide resources to reinvest in improving our services, help us deal with the cost of unforeseen events and if required it will also help us to provide a return to the States of Guernsey, a previous investor in our business.

GW has £13 million cash reserves (as at the end of 2015). Since taking on wastewater in 2012 we have been taking the time to develop an in-depth understanding of the condition and performance of our wastewater assets, so during 2012 and 2013 we continued to increase our cash reserves.

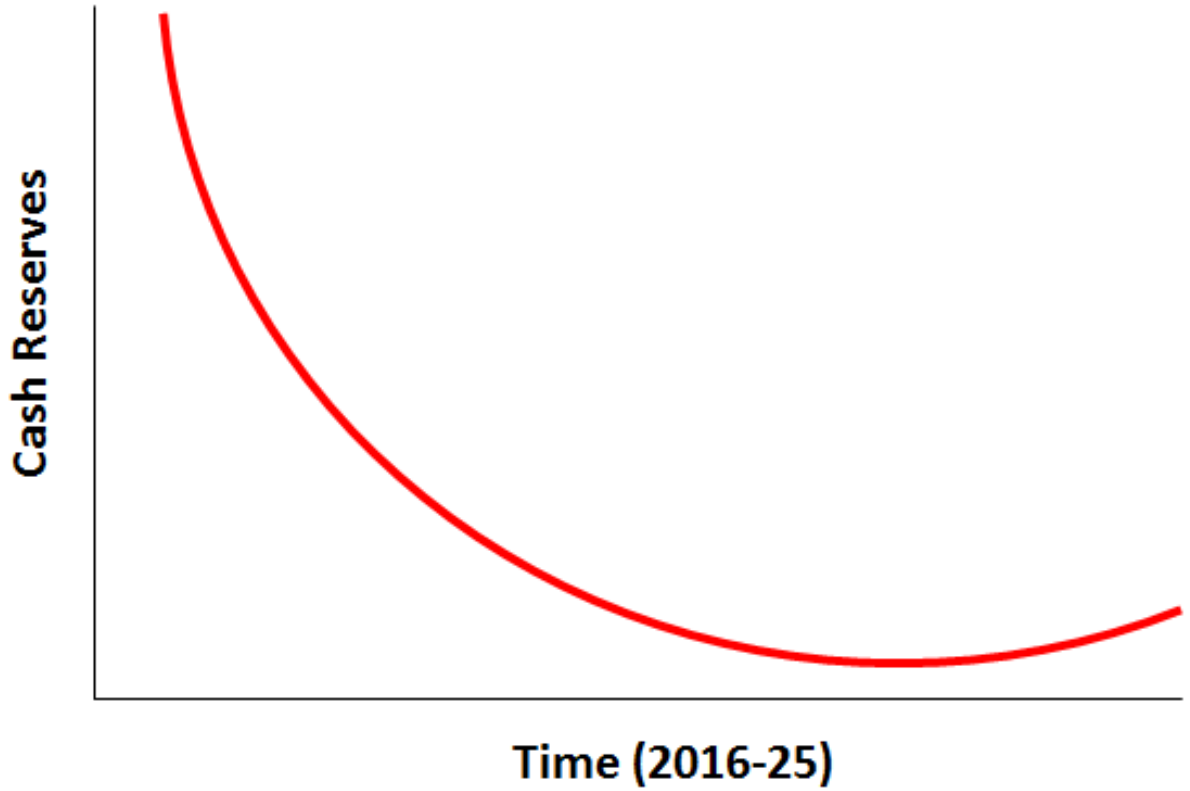
During 2014 and 2015 as we have begun to address more of our wastewater investment needs, we have started to draw down these reserves. This process will continue through the first half of this business plan.

Our business plan has been prepared on the basis of a continuation of our predominantly save-to-spend business model[6]. We have assumed that our level of capital investment is limited by the constraints we apply to bill increases and the draw down rate on our cash reserves. As a result we have put our capital investment plans through a rigorous challenge process and reduced our planned overall capital spend from £70 million to £55 million over this business planning period. Despite this our financial modelling shows that we will significantly reduce our cash reserves before the end of this plan (Chart 6).

We also prioritise our capital programme to allow the flexibility of reducing its overall scope or introducing new high priority schemes by deferring others until after 2025. This helps ensure we maximise the value of our capital investment whilst retaining an appropriate level of cash reserves.

The flexibility of our capital programme is important given the potential for variation from the assumptions on which our financial modelling is based and current uncertainty over whether we will continue with a save-to-spend business model.

CHART 6.



What do we want to achieve?

Our operations and services are efficient, investment in our assets is affordable and an appropriate return on investment is available to the States of Guernsey

[6] Guernsey Water is entirely funded by income received from customers' bills aside from investment in our BGWwC in 2012-13 and sea outfalls replacement in 2015 which was funded from the States' capital reserve.

How will we achieve this?

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Chargeable services review	Where appropriate, implement cost reflective fees for supplementary services currently provided at no cost to customers.	**Firm Financial Foundations** **Valued by Customers**	**2016**
Financial risk management	Independently review and cost our business risks to ensure they are reflected within an appropriate financial strategy, reducing the likelihood of financial difficulty if these risks were realised. This could support the review of our capital structure by helping to determine an appropriate level of depreciation, surplus, cash reserves and/or borrowing among other financial provisions.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2017**
Efficiency benchmarking	Independent review to identify an optimum level of efficiency for Guernsey Water, assessing service levels and cost of water and wastewater service provision in comparison with the cost of customers bills. Benchmark against water and wastewater companies in island jurisdictions and the UK water industry, taking account of special factors such as location and the implications of different public and private sector business models. This will help determine an appropriate level of return on past investment by the States in Guernsey Water whilst minimising any impact on customer's bills.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2017**
Performance monitoring system	Develop and embed a performance monitoring system that is relevant to staff at all levels in our organisation and reports KPIs that demonstrate the benefits of delivering the outcomes in our business plan.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2017**
Financial strategy	Joint review of Guernsey Water capital structure and borrowing requirement with Policy & Resources	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Capital structure review	Joint review of Guernsey Water capital structure and borrowing requirement with Policy & Resources	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 - 2018**
Empowered budget management	Develop and empower budget holders at all levels within our organisation to ensure informed delivery of future efficiencies, ultimately through zero-based budgeting.	**Firm Financial Foundations** **Safe & Good to Drink** **Effective Drainage**	**2016 - 2018**
Energy efficiency	Deliver a 10% reduction in power consumption and identify opportunities for further efficiency for inclusion in our business plan review. Whilst the priority must be efficient energy use we will also investigate the potential for alternative power sources to offset our energy costs.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage**	**2016 - 2020**
Customer 'willingness to pay' surveys	Where relevant for business cases, assess the value that customers place on key initiatives within our business plan. Establish a 'willingness to pay' consultation process to inform the review of our business plan in 2020.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment** **Sufficient & Resilient**	**2016 – 2020**
Property review	Review our property portfolio, which includes our quarries, to ensure these assets are delivering best value by maximising commercial, environmental and leisure opportunities for the public. Maximise returns from the sale of any assets that are surplus to requirements.	**Firm Financial Foundations** **Valued by Customers** **Protect our Environment** **Sufficient & Resilient**	**2017 - 2018**

INITIATIVE	DESCRIPTION	OUTCOMES SUPPORTED	DELIVERY TARGET
Value for money service level agreements	Commission an independent review of our service level agreements, based on efficiency benchmarking data, to identify opportunities to increase value for both Guernsey Water and its supply chain.	**Firm Financial Foundations** **Effective Drainage** **Protect our Environment** **Valued by Customers**	**2018**
Cost reflective water & wastewater bills	Review the balance between our water and wastewater charges to ensure they reflect the cost of water and wastewater service provision.	**Firm Financial Foundations** **Valued by Customers**	**2018**
Zero-based budgeting	Ensure annual budgets are aligned with business needs and drive efficiency without having a detrimental effect on service provision.	**Firm Financial Foundations** **Valued by Customers** **Safe & Good to Drink** **Effective Drainage** **Protect our Environment**	**2018 for 2019 budget submission**

FINANCIAL STRATEGY

Our business plan is aligned with the States' strategic aims; and we will be working closely with the new States Trading Supervisory Board and Office for Policy and Resources to determine the most appropriate financial strategy to support delivery of our business plan.

In its 2015 and 2016 budget reports Treasury and Resources identified the potential to generate a return to the States on investment made in their trading assets including Guernsey Water. The development of our financial strategy is expected to consider the potential for changes to the capital structure of the business including different models of financing and could also involve a return to the States of Guernsey as a previous investor in our business.

At present there are no clearly identified borrowing requirements within our business plan, the future development of Les Vardes Quarry is one potential future investment that could be of such a scale as to necessitate borrowing.

There are potential benefits from funding our capital investment plans at least in part through debt. For example, customers that benefit from investment that we made in asset improvements would pay for those benefits throughout the lifetime of that asset; a save to spend model can lead to customers paying for future asset improvements without realising the benefits from them. However, any changes to capital structure and financing will be carefully considered in the context of impact on the wider economy and the affordability of bills for customers.

Another important aspect of our financial strategy will be to ensure we operate efficiently. As well as controlling costs, and keeping customers' bills down, efficiency will release the resources required to reinvest in our services and successfully deliver our outcomes. This will be informed by the efficiency benchmarking initiative we have planned for 2016.

Key performance indicators

Clean Water

The following would be measured against volume of water billed:

- Staff costs
- Energy costs
- Other revenue costs (all other costs associated with clean water and 50% of non-operational costs)
- Water production costs
- Capital costs (finance & depreciation)
- Total costs

Wastewater

The following would be measured against volume of wastewater billed

- Staff Costs
- Energy Costs
- Other revenue costs (all other costs associated with wastewater and 50% of non-operational costs)
- Capital costs (finance & depreciation)
- Total costs

What resources will be required?

Our business reorganisation in 2015 did not involve any changes to our financial management structure. Our evolving financial strategy may require us to strengthen our resources, skills and capabilities in this area. The capital resources detailed in Table 7 will be invested in those assets that come under our management and general budget.

TABLE 7. FIRM FINANCIAL FOUNDATIONS (MANAGEMENT & GENERAL)

Firm Financial Foundations	2016 (£000s)	2017 (£000s)	2018 (£000s)	2019 (£000s)	2020 (£000s)	2021 (£000s)	2022 (£000s)	2023 (£000s)	2024 (£000s)	2025 (£000s)	2016-2020 Total (£000s)	2016-2025 Total (£000s)
Furniture	-	-	-	-	50	-	-	-	-	-	50	50
General Equipment	10	10	10	10	10	10	10	10	10	10	50	100
Vehicles (cars and vans)	-	50	-	50	-	50	-	50	-	50	100	250
Lorries	-	-	100	-	-	-	-	-	100	-	100	200
CCTV Van Replacement	-	-	-	-	-	-	100	-	-	-	-	100
Computers / IT / Printers etc	25	10	10	15	15	25	25	25	25	25	75	200
Property Portfolio Review	-	50	50	-	-	-	-	-	-	-	100	100
Sub-TOTAL	**35**	**120**	**170**	**75**	**75**	**85**	**135**	**85**	**135**	**85**	**475**	**1,000**

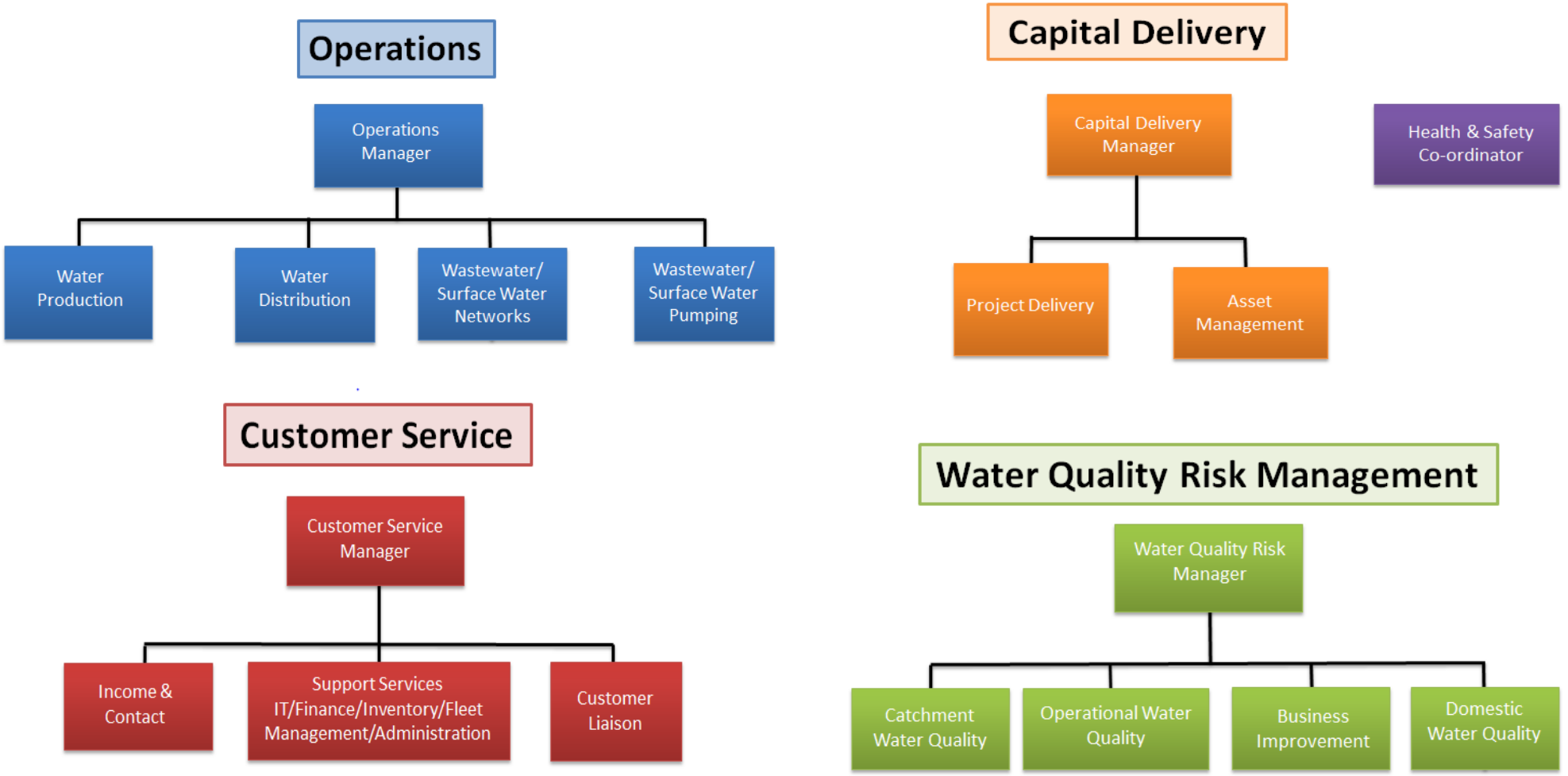
GLOSSARY

Assets	Properties or large equipment owned by Guernsey Water
BGWwC	Belle Greve Wastewater Centre – the wastewater infrastructure site inland from Belle Greve Bay which houses the inlet works, storm storage tank and sea outfall pumping station
CCTV	Closed Circuit Television
Corporate GIS	Corporate Geographical Information System – a mapping system which allows the plotting of assets and recording of information
CSO	Combined Sewer Overflow - a system whereby stormwater is automatically discharged to sea without treatment due to excessive flows, in order to prevent flooding
DWI	Drinking Water Inspectorate – the UK's independent regulator which ensures that drinking water is safe to drink and of a good quality
DGPS	Differential Global Positioning System
GSS	Guaranteed Service Standards (for customers) – specific targets that an organisation agrees to meet in order to provide a quality service to its customers
H2S (H_2S)	Hydrogen Sulphide – a gas produced by septic sewage which attacks concrete sewer structures
H&S	Health & Safety
HSS	Harbour St Sampson's – a foul water pumping station located on the Southside of St Sampson's Harbour, which serves a large catchment area
IIP	Island Infrastructure Plan – one of the four plans that make up the SSP. This plan describes the way in which the States proposes to manage or influence the use of island resources to support the government's aims and objectives
KPIs	Key performance indicators – data measures that allow an organisation to monitor how well it is achieving its objectives.
LSO	Long Sea Outfall
MAC	Maximum Admissible Concentrations – the highest amount of a certain chemical or biological element that is permitted within a drinking water sample for the water to be declared safe to drink

PAC	Powered Activated Carbon
PPM	Planned Preventative Maintenance – a planned schedule of maintenance works on assets to ensure they operate correctly
PS	Pumping Station
Rainfall return period	An estimate of the likelihood of a rainfall event of a certain intensity/duration occurring e.g. a 1 in 10 year event has a 10% probability of occurring in any year
Recorded flooding event	Any surface water, foul water or stormwater (a mix of the two) flooding event that is reported to Guernsey Water
Service Guernsey	The term chosen by the States of Guernsey's Chief Executive and his senior management team to best represent and describe the vision and direction that they have set for the public service
SCADA	Supervisory Control and Data Acquisition – a computerised system which allows the remote monitoring and control of assets (e.g. from a control room)
SMART	Specific, Measurable, Achievable, Relevant, Time-bound – a method of setting up objectives that add value to an organisation
SSP	States Strategic Plan – this is an overarching plan which will provide a mechanism to enable the States to determine what they want to achieve over the long-term (25-year horizon)
SuDs	Sustainable Drainage Systems – water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than the conventional practice of routing run-off through a pipe to a watercourse, in order to reduce risk of flooding
SW	Surface water
WPO	Water Pollution Ordinance – the legislation that sets the limits that make effluents acceptable into foul sewers, storm water drains, inland and coastal waters. The limits control the physical, chemical and microbial quality of effluents
WQ	Water Quality
WRMP	Water Resource Management Plan – a strategic plan that looks at what measures need to be taken to secure the island's water supply for the future
WTS	Water Treatment Strategy – a strategic plan that looks at what measures need to be taken to ensure that the island has robust and effective water treatment processes for the future
WTW	Water Treatment Works – the plants where raw water is treated through a variety of methods in order to make it safe to drink

APPENDICES

APPENDIX 1. OUR ORGANISATIONAL STRUCTURE



APPENDIX 2. CAPITAL PROGRAMME PRIORITISATION

The capital programme was reviewed by the leadership team to assess the relative priorities of each project or sub-programme. Each item was assessed against the following criteria:

- **Legal and Regulatory** requirements, such as health & safety legislation, States resolution to comply with etc.
- **Societal Impact** on items such as carbon usage, Guernsey Water reputation etc.
- **Clean Water** impact - does the investment contribute to providing and maintaining a Safe and Good to Drink supply of water to our customers?
- **Environmental** impact - does the investment help to prevent, say, the discharge of unacceptable levels of flow from combined sewer overflows or improve the performance of bathing water compliance?
- **Customer Service** impact - does the investment contribute to improving the experience for our customers or provide enhanced services from Guernsey Water?
- **Efficiency** impact - does the investment contribute to making Guernsey Water more effective and efficient in what we do? Does it have a favourable effect on our costs and ultimately the customer bills?

The above categories were then weighted to reflect the greater need of certain areas. Within the business planning process the relative weightings were used:

Category	Weighting
Legal & Regulatory	12
Society	4
Clean Water	10
Environment	8
Customer Service	6
Efficiency	2

Following a moderation session the following scores and ranking was produced for the overall 10-year programme - see Figure 1.

FIGURE 1. PRIORITISED RANKING OF SUB-PROGRAMMES

Sub-Programme Area	Score	Rank
St Saviours Dam Wall Maintenance	128.8	1
Refurbishment works at Juas AND KINGS MILLS in line with WT Strategy	128.0	2
Belle Greve Ph4 - LSO	126.8	3
Water Maintenance	123.2	4
Water Resources	121.2	5
HSS Improvements	120.0	6
Membrane Replacement and General Modifications to St Sav	117.6	7
Fort George	115.2	8
Disinfection Strategy	112.0	9
Site Security	107.6	10
Contingency / emergency planning	107.2	11
Meters	101.6	12
H&S improvements	100.8	13
Robust on-line WQ monitoring	97.2	14
SCADA	96.8	15
CSO's and Pollution Improvement	94.4	16
Flooding	93.2	17
Network Enhancements	90.0	18
Raw Water Mains	87.6	19
Sewers	86.8	20
Long Term Drainage Plan (incl Integrated Drainage Strategy)	86.8	20
Sustainable Drainage (incl SW Separation)	86.0	22
Treated water resilience - investigation (post water model)	84.4	23
Pressure Management	83.2	24
Water Quality modelling	80.8	25
PS refurbishment (incl. H&S & electrical refurb)	78.8	26
Water Distribution	77.6	27
Odour mitigation	76.0	28
Water Network Modelling	76.0	28
Carry Out Service Reservoir Inspections	74.4	30
Surface water surveys & modelling	71.2	31
IT & Communications	66.8	32
Stream culvert maintenance	64.0	33
Flow monitoring	61.6	34
Operational Capital (WwPS)	60.8	35
Water efficiency	60.8	35
Vehicles	58.8	37
Outfall refurbishment (SW only)	56.0	38
M&G General	30.4	39

APPENDIX 3. OUR HEALTH & SAFETY CHARTER

GuernseyWater
A DIVISION OF THE PUBLIC SERVICES DEPARTMENT

WorkSafe HomeSafe

WorkSafe HomeSafe Charter

At Guernsey Water we recognise that health and safety is vital to the success of our business. Fundamentally, we also know that in order to get HomeSafe we must WorkSafe. Therefore, health and safety is also something that we want to do, rather than just feel we have to do. WorkSafe HomeSafe puts our Health and Safety Policy into practice, ensuring we all take ownership of our own health and safety, that of our colleagues, contractors and the public. To do this requires us all to live by the following three core principles:

1 Nothing is so important that we cannot take the time to do it safely

This means that we must all take the time to plan to WorkSafe, which requires us to assess risks and follow a safe method of working.

2 We will never knowingly walk past an unsafe act or unsafe condition.

This means that we must stop anyone that does not WorkSafe and ensure that they do before they recommence work. It also means that we must respect and listen carefully to anyone that has stopped us working to help us WorkSafe. After all, they just want us to get HomeSafe!

3 We are committed to the principle that all accidents and harm are preventable.

This means that we must always report accidents and near misses. We must then learn from them and act upon lessons learned to prevent harm and WorkSafe in the future.

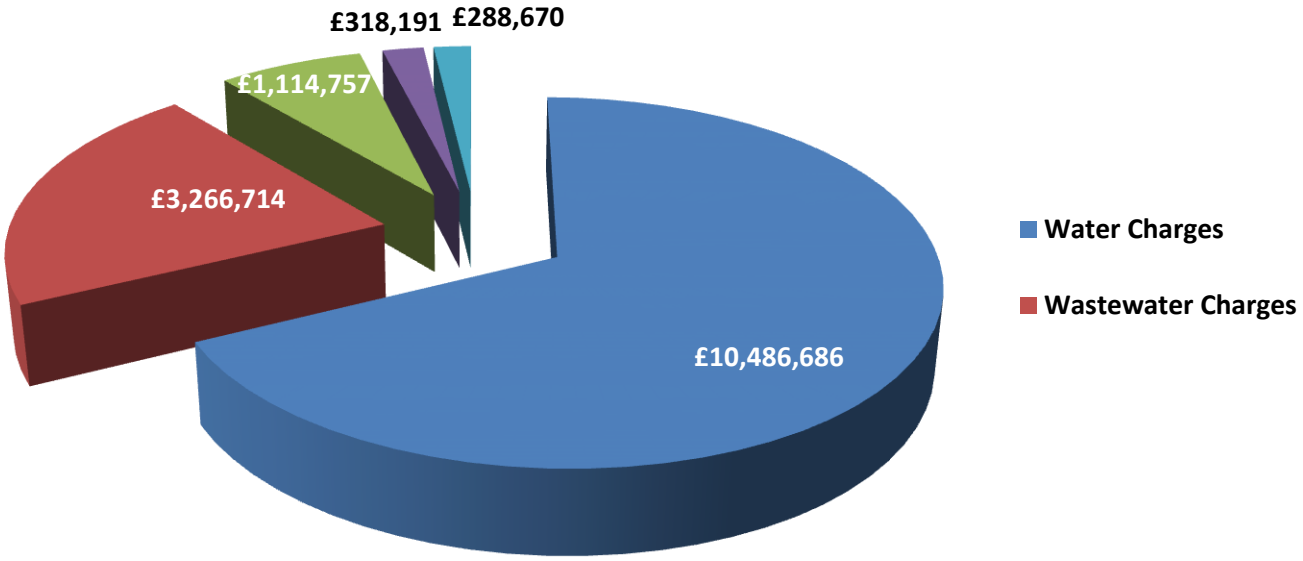
APPENDIX 4. WATER & WASTEWATER INCOME & EXPENDITURE BREAKDOWN (2014)

The following charts break down how Guernsey Water's income is generated and exactly how this money is used in terms of revenue and capital expenditure.

They show that, although the majority of income is generated through water charges, the majority of expenditure is on wastewater services and assets:

INCOME BREAKDOWN

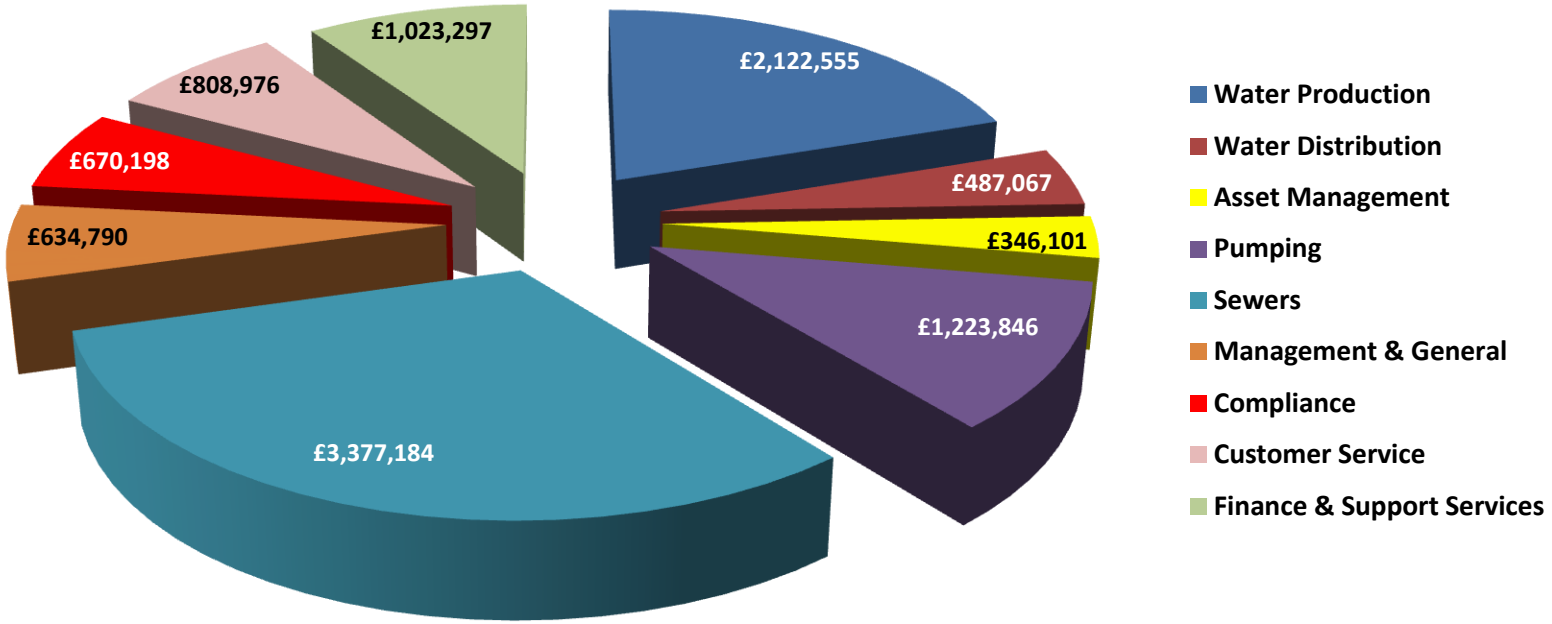
TOTAL INCOME: £15,475,018



Water Charges	Wastewater Charges	Cesspit Emptying Charges	Net Surplus on Trading	Grant Received

REVENUE EXPENDITURE BREAKDOWN

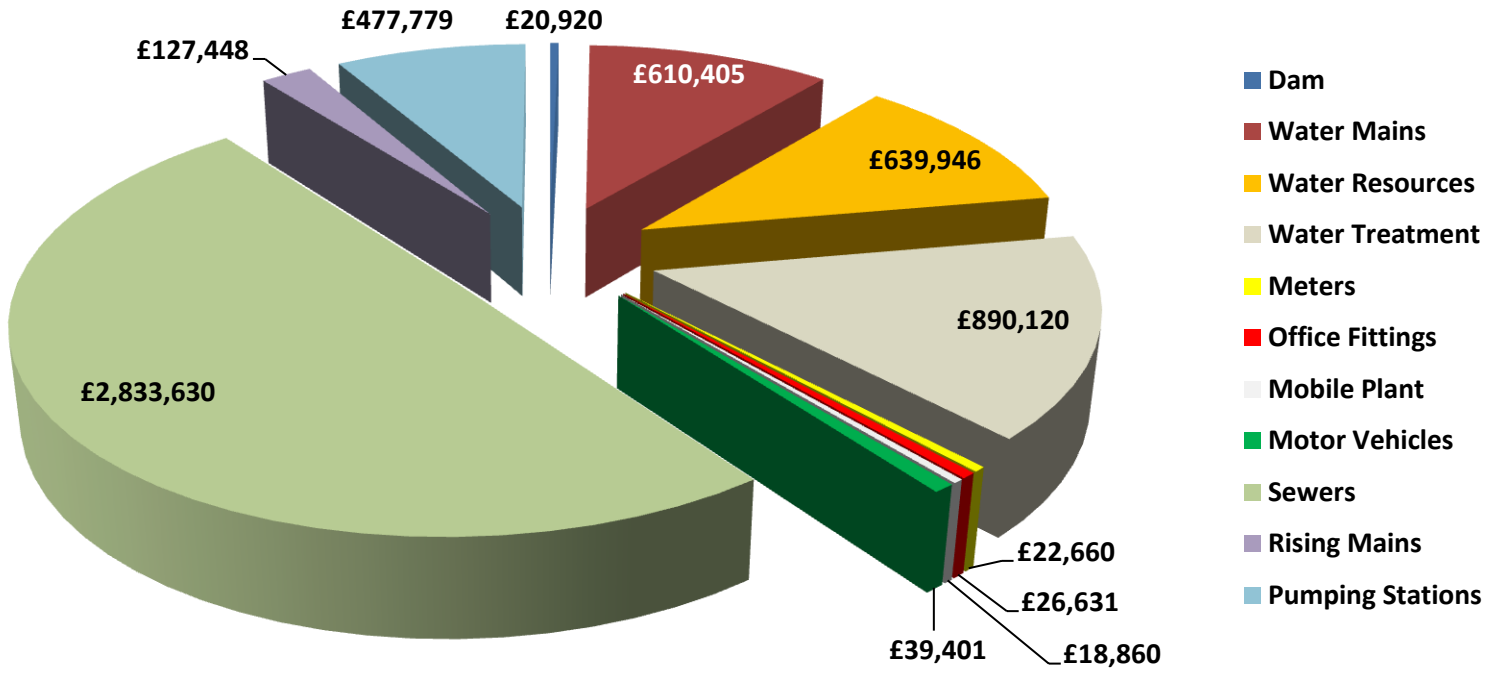
TOTAL REVENUE EXPENDITURE: £10,694,014



Water Production	Water Distribution	Asset Management	Pumping	Sewers	Management & General	Compliance	Customer Service	Finance & Support Services
£2,122,555	£487,067	£346,101	£1,223,846	£3,377,184	£634,790	£670,198	£808,976	£1,023,297

CAPITAL EXPENDITURE BREAKDOWN

TOTAL CAPITAL EXPENDITURE: £5,707,800



Dam	Water Mains	Water Resources	Water Treatment	Water Meters	Office Fittings	Mobile Plant	Motor Vehicles	Sewers	Rising Mains	Pumping Stations
£20,920	£910,405	£639,946	£890,120	£22,660	£26,631	£18,860	£39,401	£2,838,630	£127,447	£477,779

Front page photograph: St Saviour's Reservoir courtesy of Jon Le Ray (www.jonlerayphotography.com)

Guernsey Water

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St Andrew's, Guernsey

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www.water.gg

STATES OF GUERNSEY

GuernseyWater