

# Update on the Water and Wastewater Utilities 2012-2017 Financial Plan

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**Introduction:**

This report provides an update on the water and wastewater Utilities Financial Plan. The Utilities established the Financial Plan in 2011 after conducting a comprehensive review of the financial policies and practices.

The Utilities have conducted a review of the progress made on the financial plan as part of planning for the 2015 – 2018 budget cycle.

**Context for Review of Financial Plan:**

As part of the preparations for the next budget cycle, the water and wastewater Utilities undertook a review of the progress made on the financial plan. The Utilities financial plan included a six year timeline for compliance to financial targets and policies. This report includes a review of the progress made on each of the financial targets.

The Utilities is also working to develop the 10-year Water Infrastructure Investment Plan (WIIP). This WIIP outlines all of the capital investments planned over the next 10 years. In parallel with the WIIP development, a review of operating budget requirements is also being conducted. This includes operating budget requirements needed for new capital investments in the WIIP.

Indicative rates for the upcoming 2015 – 2018 budget cycle will be developed based on the investments required for the 10-year WIIP, operating budget requirements, and potential adjustments needed to continue progress on the financial plan.

**The Water and Wastewater Business Model:**

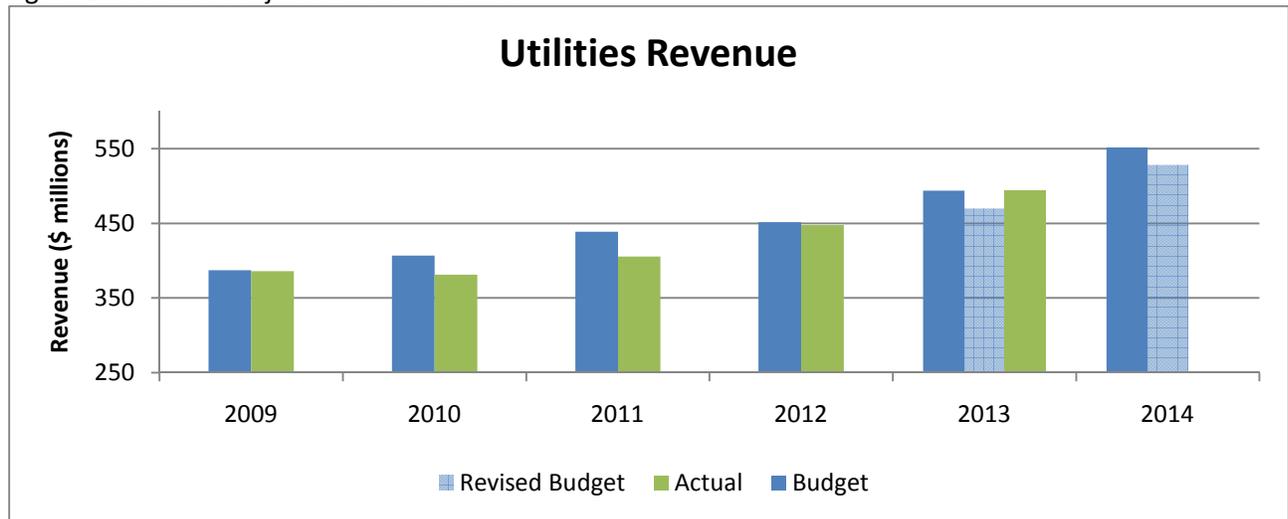
The water and wastewater Utilities operate under a utility business model. Under this model, revenues must cover all the cost to provide the Utilities' services. The Utilities' revenue consists primarily of rate revenue which is based on the Council approved utility rates for water and wastewater.

The Utilities rate revenue is partially dependent on customer consumption. The Utilities have developed a Water Management Strategy which includes a Water Efficiency Plan and other water conservation programs. Water conservation efforts aim to reduce water consumption and are important to ensure the long term water supply reliability and sustainability. As consumption decreases, rates need to be adjusted to compensate for the declining revenues since the Utilities' costs are largely fixed in nature. New accounts attributed to growth help to offset the impacts of conservation efforts on the revenues.

In addition to the rate revenue, Water and Wastewater collect acreage assessments on new development. With the current Development Agreement in place, The City shares the costs of growth with the development industry by collecting fifty percent of the full costs of water and wastewater growth infrastructure through acreage assessments. In 2013, regional customers were invoiced growth capital charges for water and wastewater to recover appropriate infrastructure investments costs in lieu of acreage assessments.

Since the Utilities' revenue needs to cover all costs and expenses it is important to have accurate rate projections. The revenue projections take into consideration growth projections, consumption patterns, fixed versus variable revenue, the mix of customer classes and the impact of weather patterns. Based on a trend of unfavourable variances and revenue projections (Figure 1), the Utilities made an adjustment to the 2013 and 2014 revenue budgets in 2012. Even with this budget adjustment, the Utilities observed a variance in the revised projected and actual revenues for 2013. To strengthen revenue projections, the Utilities will continue to monitor the revenue trends and make adjustments to projections.

Figure 1: Revenue Projections versus Actual



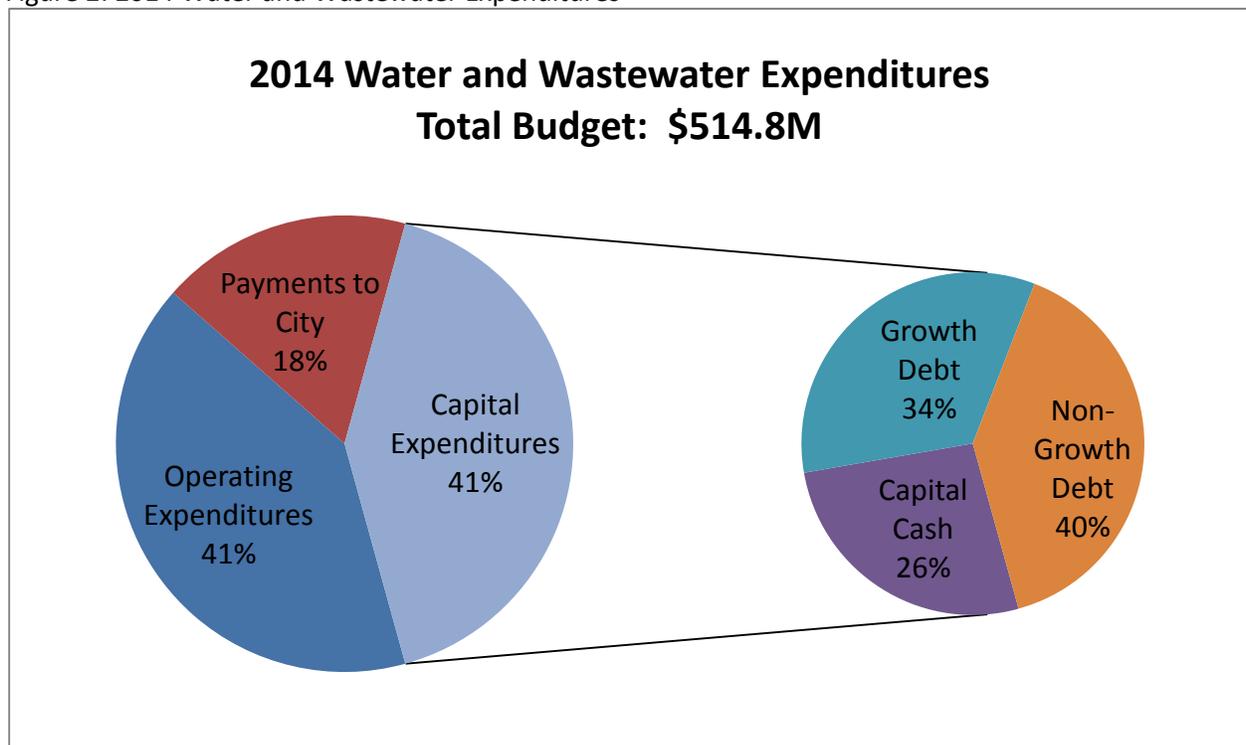
The Utilities' expenses include all operations and maintenance costs to keep the system running, all capital costs to maintain, upgrade and grow the system and payments to The City. The payments to The City include a return on equity payment and a franchise fee.

The demand for water and wastewater services continues in response to population growth and environmental objectives. The water and wastewater Utilities have reviewed the long term capital and operating pressures resulting from these demands.

**Capital and Operating Pressures:**

As the city continues to grow at a rapid rate, so too does the requirement for infrastructure necessary to provide reliable service to Calgarians. The nature of the Utilities requires significant ongoing capital investment in infrastructure. The capital is required to build and upgrade facilities and pipe networks to treat and distribute potable water, and to collect and treat wastewater. Of the current Utilities budget, approximately 40 percent is capital related and 40 percent is for operations and maintenance (Figure 2).

Figure 2: 2014 Water and Wastewater Expenditures



#### *Growth*

The City of Calgary has undergone significant growth over the last few years. New growth projections show annual growth of approximately 24,800 people. Water and wastewater infrastructure are key enablers for growth. To align with the Corporate Growth Management Framework and to support growth, the water and wastewater Utilities have established performance measures for serviced land supply and treatment capacity. Currently the Utilities target to have three to five years of land available for development that is serviced by city funded water, wastewater and stormwater infrastructure. The Utilities also target to have at least five years of both water and wastewater treatment plant capacity available. Of the current Utilities budget, about 14 percent is attributed to debt payments and finance charges for growth related infrastructure.

Higher than anticipated population growth in Calgary puts additional requirements on the Utilities capital budget. New population forecasts are showing growth of 24,800 people annually for the next five years. Actual population growth observed in 2011 and 2012 was approximately 29,000 per year. Plant upgrades and expansions take several years to deliver due to their complexity and regulatory approvals and require large capital investments. Investments in capacity upgrades and the next planned wastewater treatment plant expansion at the Bonnybrook Wastewater Treatment Plant are being advanced to address the rapid growth. The Bonnybrook Wastewater Treatment Plant Capacity Expansion Program is estimated to require \$690 million in capital (Class 5 – order of magnitude estimate) starting in 2014 to deliver the necessary treatment capacity by 2020. With the projected population growth plant expansions will be required every 10 years.

*Regulatory*

The City of Calgary has a Wastewater Operating Approval under the Environmental Protection and Enhancement Act (EPEA) which sets out limits for specific parameters, monitoring and reporting requirements and operator certification requirements. Similarly, The City of Calgary has a Water Operating Approval under the EPEA that outlines treatment, monitoring and reporting, and operator certification requirements. Increasingly stringent regulations for water and wastewater treatment also drive additional investment requirements at the water and wastewater treatment plants. Continual capital investments will be required to ensure the treatment plants continue to meet compliance with regulations.

*Capital Investments*

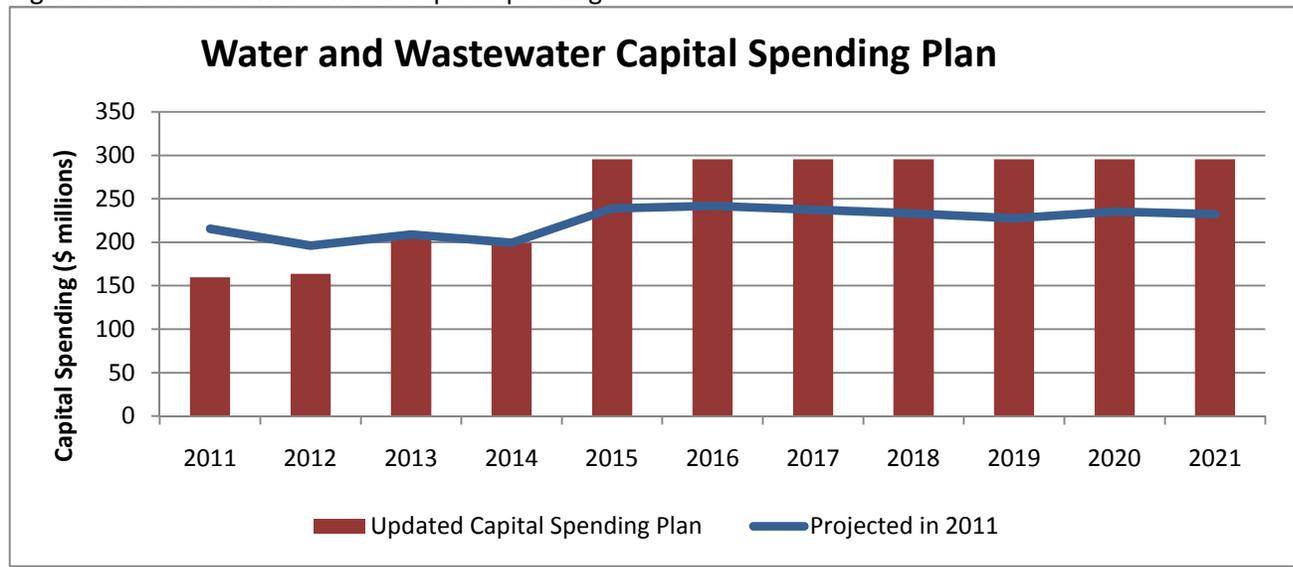
Capital pressures identified above will be incorporated into the Utilities WIIP. The capital investments within the WIIP are categorized using four investment drivers (Figure 3). These investment drivers are common to the Utilities and Waste & Recycling Services.

Figure 3: WIIP Investment Drivers

INVESTMENT DRIVER	EXPLANATION	Percentage of WIIP
Maintain assets	Maintaining, protecting and extending the life of infrastructure investments.	20-25%
Regulatory & Environmental Protection	Continuing to meet increasingly stringent regulatory and environmental protection requirements.	15-20%
Service	Continuing to provide reliable and high quality services to meet the needs of citizens.	10-20%
Growth	Investing in growth to meet the needs of a growing Calgary.	45-60%

Over the 2012-2014 budget cycle, the Utilities have delivered capital spending plans of \$200 million for water and wastewater. Preliminary estimates in the WIIP show between 45 to 60 percent of the investments are required to support growth. In order to address the increasing capital pressures and particularly the rapid growth in population, the Utilities have identified the need to increase the capital spending plans to \$300 million for water and wastewater in the 2015-2018 budget cycle (Figure 4).

Figure 4: Water and Wastewater Capital Spending



*Operating Expenditures*

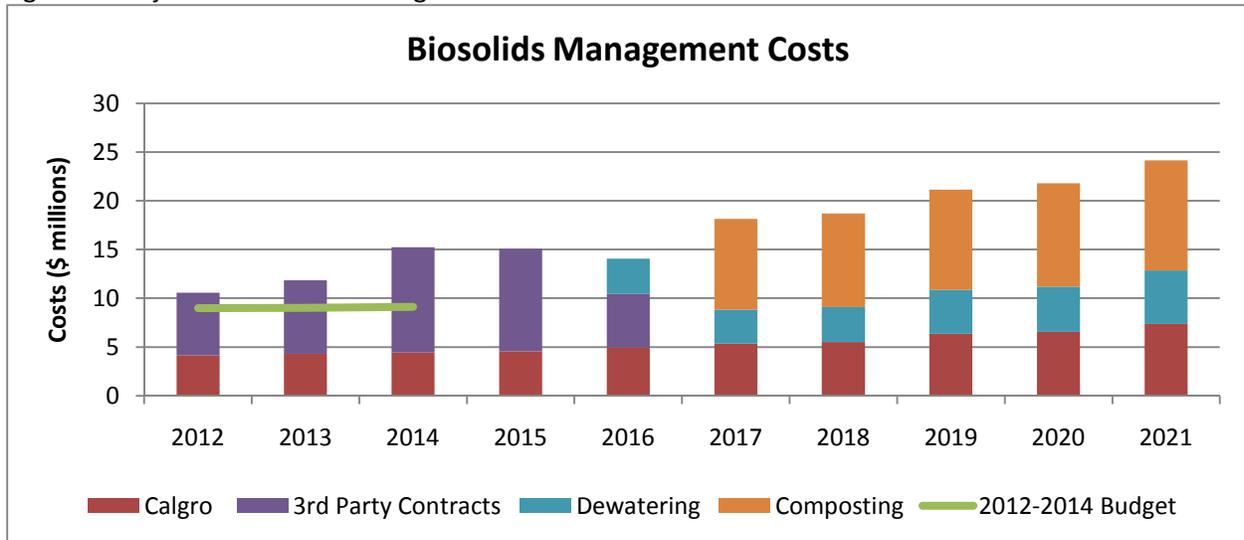
As existing facilities are expanded or new facilities are built increased pressure is placed on the operating budget to accommodate the additional costs. Over the last 10 years, there have been significant upgrades at the water treatment plants, wastewater treatment plants and in the pipe network to address the unprecedented population growth. However, in comparison, over the last 10 years, rate increases to support operating and maintenance budgets have consistently been below 2 percent. The historical operational rate increases have not fully accounted for operating costs of new infrastructure or changing conditions.

In particular, operating budgets for wastewater biosolids management and electricity have faced upward pressure resulting in budget shortfalls. Budget shortfalls for these two programs were over \$3 million per year over the 2012-2014 budget cycle. Over the 2012-2014 budget cycle, the Utilities have been managing these operating budget shortfalls by delayed hiring and making reductions in other program areas such as maintenance. Over the short term, these reductions in the maintenance programs have minor impacts however, over the long term delaying maintenance activities can result in disruptions to service and higher repair/replacement costs at a later date.

A review of the biosolids management program in 2013 showed that the current biosolids management strategies rely heavily on third party contracts for biosolids dewatering and reuse to supplement the Calgro land application program. To address this, the Utilities developed a diversified biosolids management program which included plans to dewater the biosolids followed by composting. Water Resources and Water Services are working with Waste and Recycling Services (W&RS) on plans for a joint composting facility which will allow for economies of scale and operational efficiencies. Details on the organics and biosolids composting program were brought to Council in April 2013 (C2013-0246). The water and wastewater Utilities will pay W&RS for their biosolids share of the operating, maintenance and capital costs of the new facility. This will be an additional operating expenditure for wastewater and

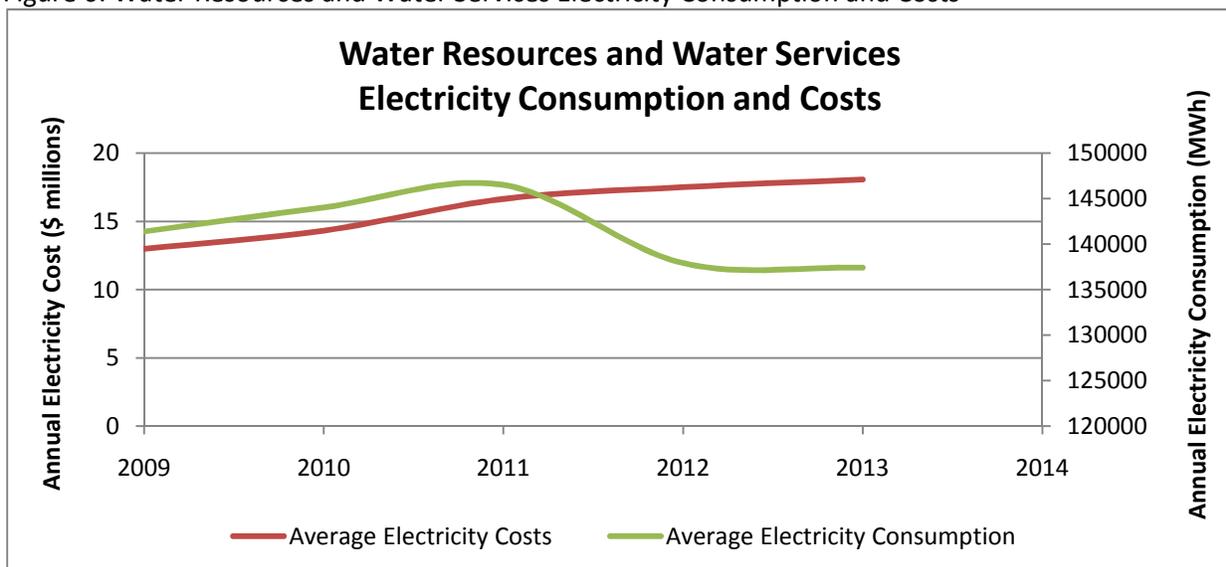
is anticipated to be \$10 million per year. This new operating expenditure will be partially offset by a reduction in third party contracting resulting in an estimated net operating budget impact of \$7 to \$9 million (Figure 5).

Figure 5: Projected Biosolids Management Costs



Energy costs have been higher than forecasted over the last budget cycle. Periodically, energy suppliers review their operational costs and apply rate riders to customers. Historically, rate riders have been fractions of a cent. However, since 2011, the rider costs have been notably higher, and continue to rise with the latest rider set at 2.7 ¢/kWh for 2014. To try and offset the higher energy costs, the Utilities have implemented efficiency initiatives to reduce consumption where possible (Figure 6). Despite these efforts, the energy costs continue to be higher than the budget. Preliminary estimates for additional energy budget impacts are in the range of \$8 to \$10 million per year. This estimate includes a portion for anticipated rate riders and additional consumption based on new upgrades/expansions.

Figure 6: Water Resources and Water Services Electricity Consumption and Costs



As more plant and network upgrades are planned, there will be more energy costs and more operating and maintenance needs. To support the additional capital there will be a need to increase operating budgets beyond inflationary amounts. Preliminary estimates in operating requirements related to new capital investments planned in the WIIP are in the range of \$5 million per year.

The upcoming 2015-2018 operating budget will also need to include increases to account for the new billing and customer care agreement. The new agreement included a new baseline contract fee that takes effect in 2015.

**Progress on Financial Targets:**

In 2011, the Utilities Financial Plan set out specific financial targets to be complied with over a six year horizon. The six year timeline was selected to correspond with two budget cycles and provided the stability and flexibility necessary to achieve improved financial capacity in the Utilities with a moderate impact on customer rates. Figure 7 shows that although there are some variances from the plan for individual targets, overall the Utilities are on track to meeting the six year timeline for financial policy and target compliance.

Figure 7: Utilities Financial Targets

Policy Area	6 Year Financial Plan Target	Financial Plan Projection for 2013	2013 Actual
Debt Limit	Maximum \$2.0 billion	\$1.7B	\$1.5B
Debt service	Maximum 40% of revenues	30-35%	30%
Cash financing of capital maintenance	100%	44%	35%
Sustainment reserve	10% of revenues	2.1%	0.9%
Debt to equity ratio	60/40	74/26	70/30

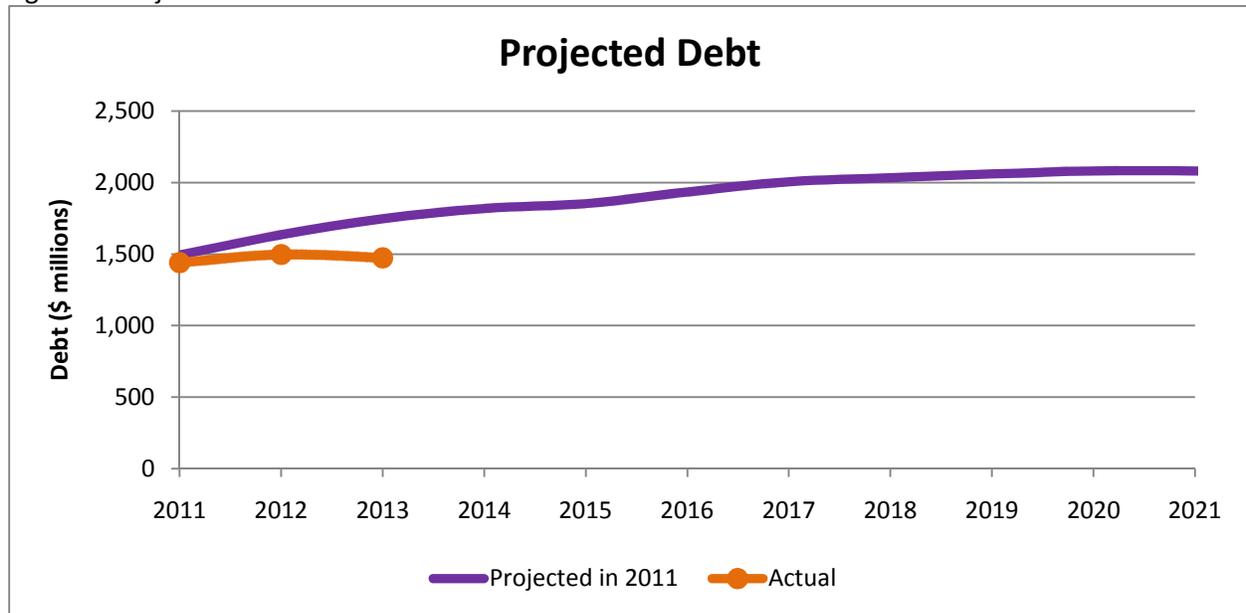
*Debt:*

Debt limits and debt servicing limits are normally established by lending institutions to ensure that debts and related interest costs are repaid in a timely manner. The City as a whole has both a debt limit and a debt servicing limit as required by the Municipal Government Act (MGA). The MGA outlines that for The Corporation, debt may not exceed a limit of twice the revenue and that debt servicing may not exceed a limit of 35 percent of revenue. The City has set an administrative target of 80% of the MGA total debt and debt servicing limits. The debt from the Utilities and Drainage both contribute to The City debt levels and are subject to these targets.

The total debt limit target of \$2 billion had been set for the water and wastewater Utilities in the 2011 Utilities Financial Plan. This target excluded Drainage related debt. Over the 2012 – 2014 budget cycle, the total debt for the water and wastewater Utilities has been maintained below the target of \$2 billion

(Figure 8). The actual total debt for the water and wastewater Utilities in 2013 was \$1.5 billion which is in compliance with the target.

Figure 8: Projected Debt



*Debt Service:*

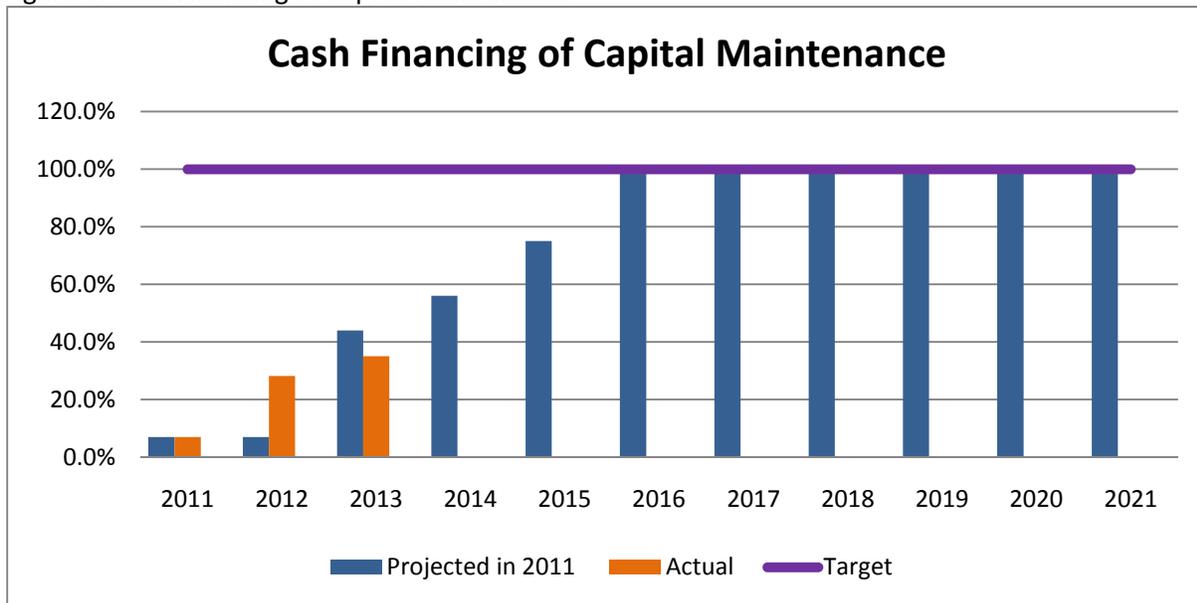
A target of 40 percent of revenues was set for the water and wastewater Utilities debt servicing. This target excludes Drainage. Over the last budget cycle, the Utilities have maintained debt servicing below the target. The actual debt servicing for 2013 was 30 percent of revenues, within compliance to this target and calculated to be 30 percent of revenues.

*Cash Financing of Capital Maintenance:*

An appropriate mix of debt and cash financing derived from maximum debt limits and minimum cash requirements is necessary to deliver water and wastewater services. Operating costs are fully funded from rate revenue. Capital expenditures are either cash financed or debt financed. Cash financing is derived from retained earnings – the return to capital portion of the net income. The Utilities Financial Plan outlined a policy that the Utilities will have a target of cash financing 100 percent of the capital maintenance projects identified in the capital budget.

Based on the six year timeline for compliance and the rate increases for the 2012 – 2014 budget cycle it was projected that the Utilities would achieve the cash financing target in 2017 (Figure 9). In 2013, the Utilities cash financed 35 percent of the capital maintenance projects, slightly lower than the projection from the 2011 Utilities Financial Plan.

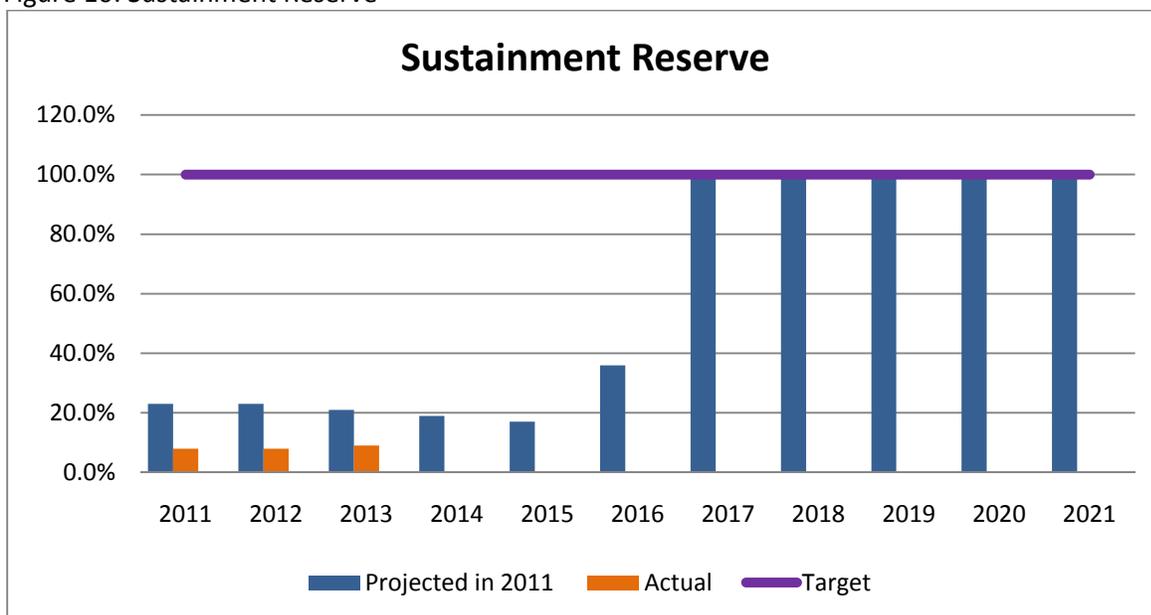
Figure 9: Cash Financing of Capital Maintenance



*Sustainment Reserve:*

In 2011, The City of Calgary created the Utilities Sustainment Reserve to provide a measure of financial flexibility and to mitigate revenue fluctuations, the financial impact of significant unexpected events, or to cover any annual deficits. The water and wastewater Utilities had previously set a target of 10 percent of total revenues collected for the reserve. Based on the six year timeline for compliance and the rate increases for the 2012-2014 budget cycle it was projected that the Utilities would achieve the sustainment reserve target in 2017 (Figure 10). At the close of 2013, the Utilities Sustainment Reserve reached 0.9 percent of revenues, slightly lower than projections in the Financial Plan.

Figure 10: Sustainment Reserve

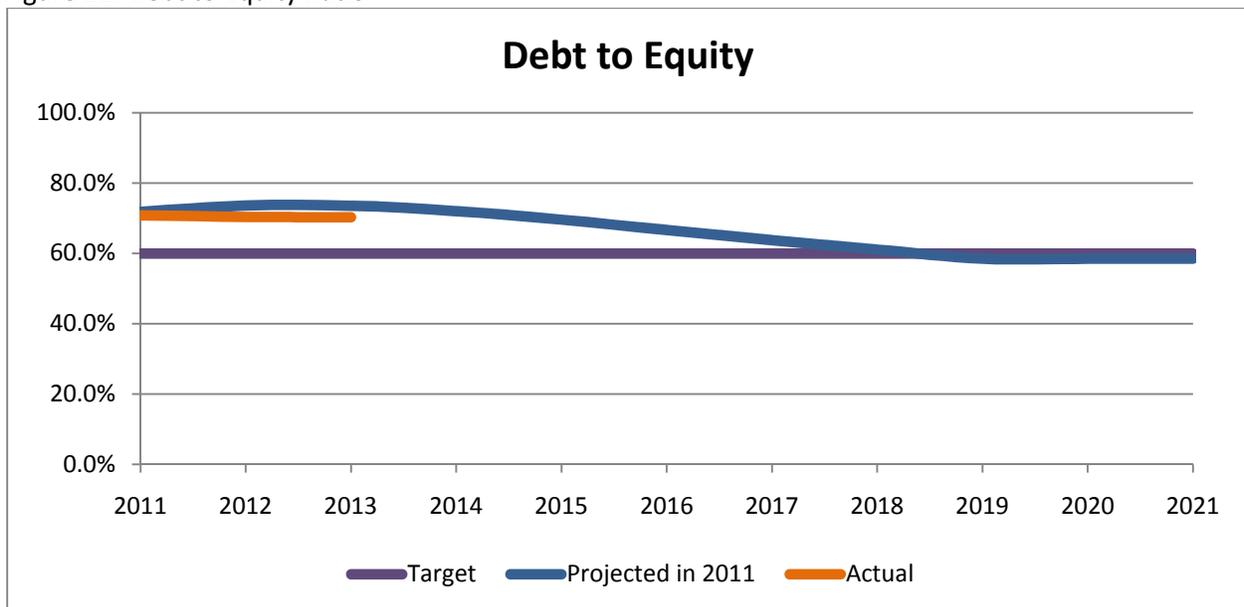


**Debt to Equity Ratio:**

The debt to equity ratio is a useful financial indicator over the long-term. The 2011 Utilities Financial Plan set out a target of 60/40 for the water and wastewater Utilities. This target was determined based on standard industry best practice for regulated utilities in Alberta and across the country.

The actual 2013 debt to equity ratio was 70/30. Over the 2012-2014 budget cycle the debt to equity ratio has trended towards the target of 60/40 as projected in the 2011 Utilities Financial Plan (Figure 11).

Figure 11: Debt to Equity Ratio



**Timelines for Compliance**

As part of the development of the 2015 – 2018 Action Plan, the Utilities have been developing the 10-year WIIP. The WIIP will incorporate the investments required over the next 10 years to address the capital pressures identified. The investments required to deliver the WIIP and the timeline which the Utilities achieve compliance with all of the financial targets set out in the Utilities Financial Plan will have impacts on the utility indicative rates.

In 2011, the Utilities had recommended a six year timeline for compliance to the financial targets. This six year timeline was based on two budget cycles and assumed compliance by the end of 2017. To be consistent with the new four year budget cycle, the Utilities will consider compliance by the end of 2018. In addition, the Utilities will consider the rate impacts of extending the timeline to achieve select financial targets.

**Impacts of Acreage Assessments on Utility Rates:**

Under the current Development Agreement, the Utilities share the cost of new growth with the development industry. The Utilities have been collecting fifty percent of the cost of water and wastewater infrastructure required to support growth from the development industry. The remaining fifty percent of the costs is recovered through water and wastewater rates. The current Development Agreement is set to expire at the end of 2015. The Utilities will evaluate the rate impacts of moving towards the full cost recovery for water and wastewater infrastructure that supports growth.

Water and wastewater infrastructure is considered to be leading infrastructure. The infrastructure needs to be installed before development can occur. The revenue generated from acreage assessments is dependent on the amount of land developed in any one year. As a result, the revenue from acreage assessments is collected after the infrastructure is completed and expenditures are incurred. In some cases, the recovery from acreage assessments can be years later. In the years that development is less than projected, rate revenues would be required to make up any shortfalls for growth related expenditures.

As part of the Cost of Service Study currently underway, the Utilities will evaluate the financial targets for reserves in the context of potential changes to the acreage assessment revenue. The Utilities recognize that possible changes to recover the full cost of growth from the development industry would also increase the risk to revenue cash flow.

**Conclusion:**

Achieving compliance with the financial targets set out in the Utilities Financial Plan will ensure a financially sustainable future for the water and wastewater Utilities. Originally, the six year timeline to achieve compliance was selected based on two budget cycles. To align with the new four year budget cycle, the Utilities will consider achieving compliance to the financial plan by the end of 2018. Although the Utilities have made considerable progress towards compliance to the financial targets by 2018, there is a risk that financial compliance will not be achieved without the necessary rate increases.

Indicative rates for the upcoming 2015 – 2018 budget cycle will be developed based on the investments required for the 10-year WIIP, operating budget requirements, and potential adjustments needed to continue progress on the financial plan.