



TransAqua

▶ GREATER MONCTON
WASTEWATER
COMMISSION

▶ COMMISSION
DES EAUX USÉES
DU GRAND MONCTON

2022 GMWC Business Plan

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Executive Summary

TransAqua - the Greater Moncton Wastewater Commission (GMWC) operates in a highly regulated environment requiring an Approval to Operate Wastewater Works and a separate Approval to Operate the Composting Facility.

GMWC is deemed as a local municipality in New Brunswick legislation and follows all applicable Provincial and Federal legislation that the Cities of Moncton and Dieppe and the Town of Riverview follows.

GMWC has a Mandate, Mission, Vision and Values that guide its strategic direction.

The 2019-2023 GMWC Strategic Plan is based on the following Strategic Themes:

STRATEGIC THEMES

- Implement and operate environmentally sustainable processes to treat wastewater in the Greater Moncton Area
- Ensure and maintain long term sustainability
- Strengthen partnerships & engage with Municipalities, Stakeholders and Ratepayers

The 2022 GMWC Business Plan impacts the four Strategic Perspectives: Providing Fiduciary Stewardship, Serve our Stakeholder, Manage Internal Processes & Promote Technology Innovations and Promote Learning / Growth. In turn, Strategic Initiatives are completed by GMWC staff to achieve the Strategic Objectives approved by the Commission Board.

GMWC has developed the 2022 GMWC Business Plan to provide current information relevant to operations and provide stakeholders an update on the financial health of the organization and any projected major capital cash outlays. The GMWC Business Plan is a living document that will be updated each year.

GMWC currently owns infrastructure with a value of approximately \$172 million with a net book value of \$119 million after depreciation as of June 30, 2022.

The 2022 rate of \$210 / Residential Unit has been the same since 2016. Institution, Commercial and Industrial Users pay a wastewater fee based on water consumption.

An increase in \$90.4 million of new infrastructure from the WWTF Upgrade and Modernization Project has resulted in increased operational costs and decreased the annual operating surplus that is transferred to the GMWC Capital Reserve Fund.

To ensure a fair and stable rate structure, GMWC reduced the amount of net new capital projects by \$53.4 million to focus on the GMWC Infrastructure Deficit that is estimated at \$40.7 million over the next 15 years. The GMWC Capital and Operating Reserve Fund and GMWC's Operating bank account has the following balances:

Table 1: GMWC Finances

Fund	Account Type	Amount	Maturity Date
Operating Reserve	Redeemable GIC	\$5,394,654	June 2025
Capital Reserve	Non-Redeemable GIC	\$5,195,618	May 2027
Capital Reserve	Non-Redeemable GIC	\$16,800,000	June 2027
Operating	Operating Bank Account	\$10,151,798	Accessible
TOTAL		\$37,542,070	

The Asset Management System continues to develop with the Commission approving the Asset Management Policy, Strategy and Plan. GMWC has completed an asset condition assessment and the existing assets are mostly in fair to very good condition with ratings provided for more than 2268 assets. GMWC's maintenance program has performed very well with many assets that are operating very well past their useful life. The 15-year average annual asset replacement cost is estimated to be just over \$2.7 million.

An independent third-party auditor conducted an audit for the number of Units provided by the Cities of Moncton and Dieppe and the Town of Riverview between 2020 and 2021 that resulted in no significant discrepancies.

Introduction

Established on March 3, 1983, the Greater Moncton Sewerage Commission Commission was formed by the Government of New Brunswick.



Greater Moncton Sewerage Commission
Commission d'épuration des eaux usées du Grand Moncton

In 2014, the Greater Moncton Wastewater Commission introduced TransAqua as its new business name. A bilingual name that conveys what the Commission does: transforming (“trans”) wastewater (“aqua”) and returning it to nature.



The Commission operates in a highly regulated environment; a wastewater collection system, wastewater pumping stations, a wastewater treatment facility and a composting facility in the greater Moncton region and provides wastewater treatment for the Cities of Moncton and Dieppe and the Town of Riverview.

The New Brunswick Department of Environment and Local Government (NBDELG) issues an Approval to Operate for the operation of the Wastewater Works and the Composting Facility that outlines the Terms and Conditions under which GMWC must operate. NBDELG issued a Permit for Watercourse and Wetland Alteration that permits GMWC to repair or replace any Combined Sewer Overflow flap gates.

GMWC conducts its business with full transparency to all stakeholders. Since its inception the Commission sets its own rates with no requirement for oversight from the New Brunswick Energy & Utilities board. The goal of this business plan is to provide the ratepayer an explanation on how the operations impact the unit rate in an easy-to-understand way. It is important that the ratepayer fully understand the revenue and expenses of the Commission and how it can impact their rates. The annual GMWC Infrastructure Report Card was introduced in March 2022 to help breakdown the details for the ratepayer in a clear and concise manner.

GMWC Infrastructure Report Card



TransAqua

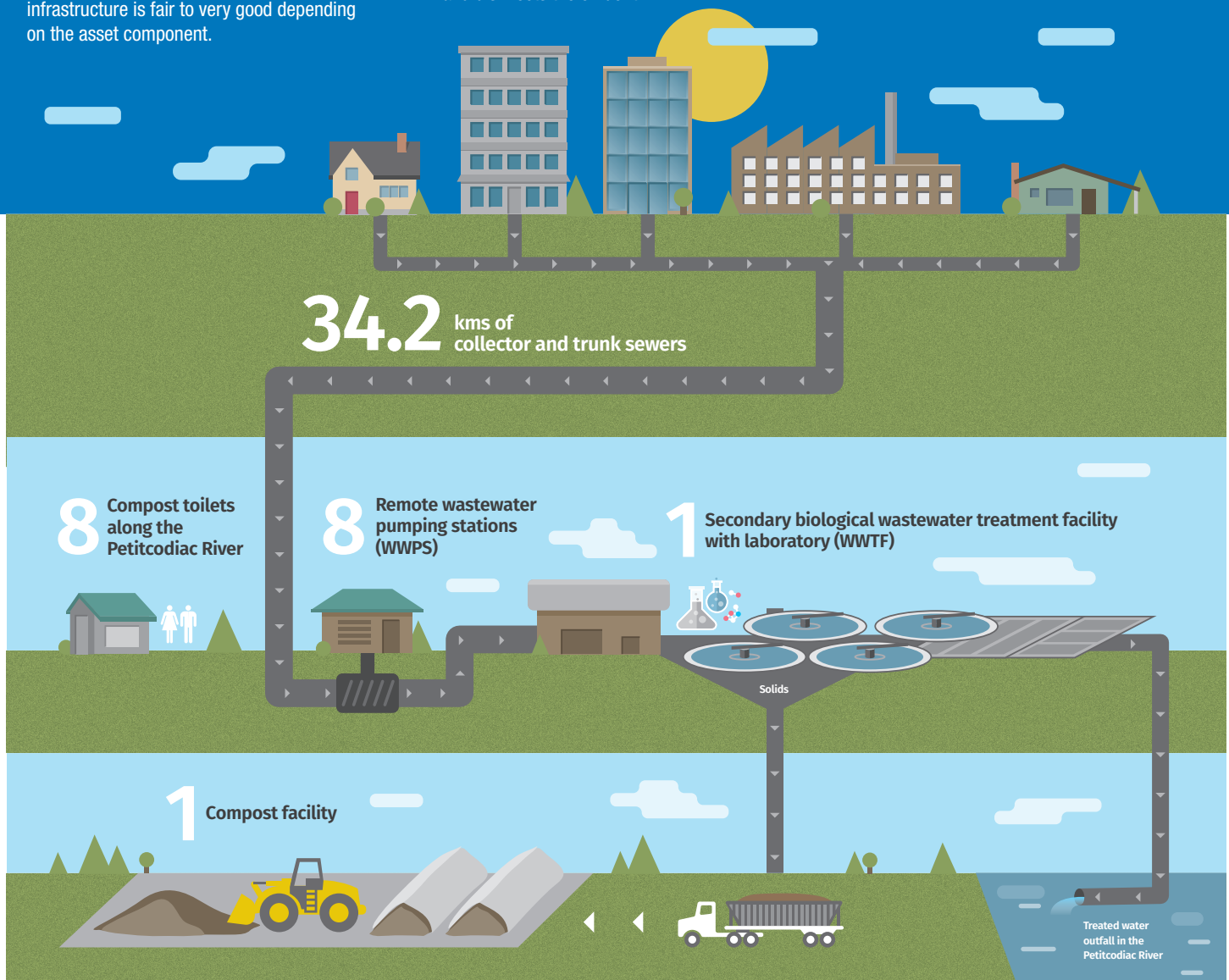
GREATER MONCTON
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DU GRAND MONCTON

March 2022

Quick Facts

- TransAqua provides wastewater treatment service to Institution, Commercial, Industrial customers and approximately 122,107 residents in Moncton, Dieppe and Riverview.
- TransAqua is growing and currently owns infrastructure with a current value of \$116,889,278.
- The overall condition of TransAqua's infrastructure is fair to very good depending on the asset component.
- TransAqua has an affordable and sustainable financial, infrastructure and operational plan to ensure ratepayers receive a safe, reliable and environmentally responsible wastewater treatment service.
- Wastewater is treated with best available technological biological processes that removes nutrients harmful to aquatic life and disinfects the effluent.
- Both wastewater effluent water and compost quality are regulated to meet federal and provincial environmental regulations before returning to the environment.
- TransAqua converts biosolids into the highest quality compost in Canada through beneficial reuse. Over 9,000 tonnes of compost was reintroduced into the tri-community in 2021.



Wastewater Treatment

TransAqua successfully transitioned from an advanced chemically assisted primary treatment facility to a 4-step feed biological secondary treatment facility. TransAqua began meeting the federal Wastewater Systems Effluent Regulations by the end of 2020.



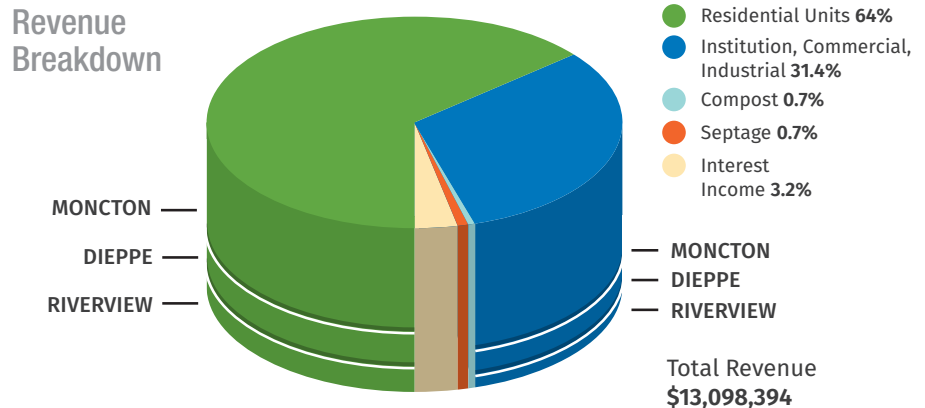
Effluent Water Quality

TransAqua's effluent and compost quality is regulated and must meet the federal and provincial standards prior to effluent release to the Petibodioc River and compost release to the public. TransAqua rigorously inspects, monitors and analyzes the effluent and compost quality and is committed to environmental excellence. TransAqua continuously strives for continuous improvement using Best Management Practices, an innovative approach, maximize operational efficiency and through timely infrastructure investment.

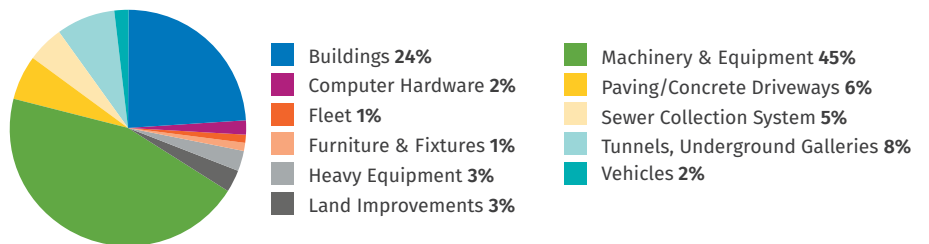
Wastewater System Risks

Wastewater assets across Canada are depreciating faster than they are being replaced. An annual Rate Analysis is completed to ensure the unit rate is sustainable to fund the wastewater treatment Capital and Operational needs. It is important to plan for and manage infrastructure renewal funding in a controlled manner to reduce the impact of sudden rate increases and increased service disruptions (pipe breaks / collapse, etc.).

Revenue Breakdown



15-year Asset Replacement Value: \$40.7 Million



Wastewater System Condition

TransAqua owns, operates and maintains a resilient and robust system that embraces preventative maintenance concepts to keep the system assets operating in the most difficult conditions. The WWTF has backup generators and redundant equipment to ensure continuous wastewater treatment service. The overall condition of TransAqua's infrastructure is fair to very good depending on the asset component.

TransAqua's wastewater assets depreciated by \$3.7M in 2021 and the average annual renewal expenditure for the next 15 years is \$2.7 million in order to maintain a "Fair" or above rating. Assets that fall into the "Poor" or "Very Poor" category face an increased maintenance costs and downtime along with the risk of catastrophic failure.

Initial Condition Assessment by Asset Category

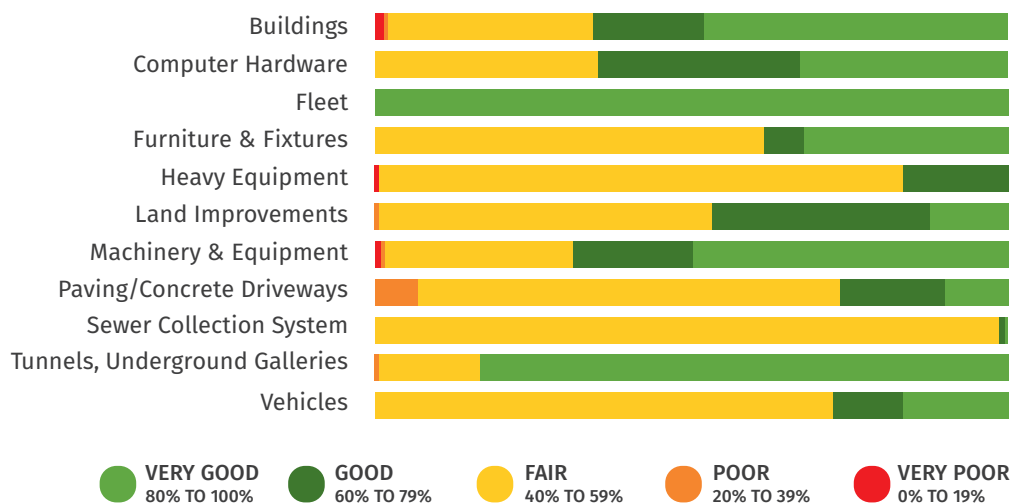


Figure 1: GMWC Infrastructure Report Card

GMWC's financial policies establish the appropriate funding sources for capital expenditures to ensure that GMWC Capital Program remains within the limit that preserves GMWC's financial sustainability. This business case provides the rationale and basis for ensuring a fair short-term and long-term rate structure that allows GMWC to remain financially sustainable without incurring any debt. GMWC does not currently have any debt. Long term debt is permissible for capital funding only.

GMWC follows all applicable Provincial and Federal legislation that the municipalities follow but does not have access to all the benefits which a municipality would receive (ex. Gas Tax Revenue, pandemic relief funding and Federation of Canadian Municipalities programs). GMWC follows the Canadian Public Sector Accounting Standards for financial reporting.

GMWC is deemed as a local municipality in New Brunswick legislation and applies the second previous year surplus or deficit in its budget reporting.

Mandate, Vision, Mission & Values

GMWC's Vision, Mission and Values are reflected in the GMWC Balanced Scorecard. They complement GMWC's mandate and support a strategic direction that is centered on GMWC's role in ensuring that its ratepayers are delivered maximum value for the services rendered in a timely, economically and environmentally sustainable manner.

Mandate

The Greater Moncton Sewerage Commission (GMSC) was created through Order-in-Council No. 83-162 dated March 3, 1983 under the Clean Environment Act to “develop proper sewage collection and treatment facilities for the City of Moncton and Towns of Dieppe and Riverview.” GMSC later changed its legal name to the Greater Moncton Wastewater Commission and introduced its business name, TransAqua, in 2014.

Vision

GMWC is inspired by the desire to be among the best environmentally friendly wastewater treatment operations in Canada. The Commission has established the following Vision Statement:

“To be an outstanding environmental steward supporting regional planning, economic development and quality of life for the communities of Dieppe, Moncton and Riverview.”

Mission

Through commitment to quality, constant innovation and respect for the planet, GMWC aims to exceed expectations in treating wastewater and processing biosolids in the most responsible and environmentally safe ways possible.

Recognizing the world class processes and many years of experience that GMWC has developed in the wastewater treatment and composting industry, the Commission has adopted the following as our mission:

“To collect and treat wastewater in a reliable, cost-efficient and environmentally responsible manner.”

Values

GMWC's journey toward a sustainable and innovative organization has allowed the Commission Board and staff to become a team who always upholds GMWC's Values.

Teamwork	Accountability	Integrity	Achievement/Results Oriented	Effective Communication
<ul style="list-style-type: none">Working well with people is an absolute necessity. This is best accomplished with healthy debate & meaningful discussion to find the best conclusion & eventual decisions for forward process. Teamwork & Mutual Respect for one another are essential to our success.	<ul style="list-style-type: none">At the core of accountability is reliability and personal responsibility. Therefore, we value the ability of our staff and organization to work diligently and honor our commitments. We will also take responsibility for our work and promptly correct mistakes to the greatest extent possible	<ul style="list-style-type: none">Integrity is the quality of being honest and having strong moral principles. Integrity comes in many forms, but the most important traits that we expect here are dependability, honesty, trustworthiness, respect, loyalty and good judgement.	<ul style="list-style-type: none">The ability to focus on achieving efficient, timely, quality results by directing efforts on expected outcomes, setting challenging goals, focusing effort on the goals, and meeting or exceeding them within expected timeframes.	<ul style="list-style-type: none">Openly communicating in a compelling, honest, persuasive and articulate manner, ensuring the message is clear, understood and consistent with TransAqua objectives. Exchanges ideas and willingly explores a variety of perspectives that respects unique individuals, audiences and circumstances

GMWC and the Cities of Moncton and Dieppe and the Town of Riverview worked collaboratively to develop the Sewer Use Bylaws and property easements for underground infrastructure.

GMWC and the Cities of Moncton and Dieppe and the Town of Riverview have ratified several Agreements beginning in 2016:

- Cost Sharing Agreement for the Babineau Creek Trunk Sewer in Dieppe – November 2016.
- Agreement for the Construction, Operation and Maintenance of Forcemain from the Fox Creek Pumping Station to the new Babineau Creek Trunk Sewer in Dieppe (“the Bourque Road Forcemain Project”) – November 2016.
- Agreement for the Relocation of the GMWC Collector Sewer at Johnathan Creek – December 2016.
- Combined Sewer Overflow Reporting Sub-Agreement with the City of Moncton – June 2018
- Service Agreement – June 2018; and
- Agreement for the Cost Recovery of the Commission’s Expenses – May 2021.

2019-2023 GMWC Strategic Plan

Historically, planning processes have focused on a 5-year Strategic Plan, an annual budget that included a 3-year budget projection and a 15-year capital budget projection. The 2019-2023 GMWC Strategic Plan guided GMWC's capital investments for both existing assets and new assets over 15 years. The Business Plan's purpose is to:

1. Improve long-term management.
2. Provide a long-term framework to inform the 15-year capital plan and the 1-year budget process.
3. Highlight projects that could be ready to advance should funding be available; and
4. Guide the selection of public amenities which are generated through systematic growth and municipal requirements.

GMWC has 3 components to capital planning:

1. Annual GMWC Capital Budget – (combines 1-year budget and 14-year budget forecast).
2. Regional Wastewater and Combined Sewer Overflow Strategy – providing future required projects within the Greater Moncton Region.
3. Balanced Scorecard (5-year outlook, high level, strategic direction of GMWC).

The GMWC Infrastructure Report Card was created as an assessment of the organization's fiscal capacity.

Financial capacity is reflected from the Commission's ability to generate revenue from the rate payer and ability to take on debt. The projected financial needs currently meet the financial capacity at the current Residential Unit and Institution, Commercial and Industrial (ICI) rate.

As part of the annual budget process, capital requirements are going to be evaluated based on value, risk, assessment of infrastructure, strategic priority and overarching principles which include:

1. Need to proactively maintain existing assets.
2. Need to extend the useful life of GMWC's assets where possible.
3. Consider energy management within the total life cycle cost of any new asset or an asset requiring replacement.
4. A requirement to embed financial sustainability in GMWC's capital assets.
5. Evidence of the need for new or expanded assets to maintain a high level of service.
6. Prioritization of multi-use strategic assets to achieve both operational and capital economies of scale and efficiency (Ex. Working directly with the City of Dieppe to construct the Bourque Road Forcemain while they construct new infrastructure in the roadway at the same time).
7. Fostering stakeholder relationships based on mutual benefit (Tri-Party Glycol De-Icing Fluid Agreement with the Greater Moncton International Airport Authority and the City of Dieppe; Eco 360 housing their firetruck in winter, advertising with the Moncton Wildcats, using each other's equipment (wood chipper, compost turner, etc.).

Based on direction outlined in the 2019-2023 GMWC Strategic Plan, the following outcomes regarding GMWC capital assets would be expected by the end of 2023:

1. Completion of \$90.4 million WWTF Upgrade and Modernization Project.
2. Annual GMWC Infrastructure Report Card.
3. Risk Assessment and condition assessment of existing assets.
4. Complete Feasibility Studies for the implementation of new and innovative processes that support resource recovery (wastewater heat recovery, solar power, turbines in pipes, anaerobic digestion).
5. Increase public uptake in GMWC compost.
6. Increase public awareness /action to reduce the amount of garbage being flushed into the wastewater collection system.

Given how the interdependencies between the 2019-2023 GMWC Strategic Plan and the 15-year GMWC Capital Program are directly related to the annual budget, the 2022 GMWC Business Plan will be updated annually as it is a living document.

The 2019-2023 GMWC Strategic Plan represents a significant cultural and operational shift that supports optimal decision making based on improved data and transparency of priorities. The challenges faced in this process is including a balance between recapitalization and the funding of new or significantly expanded assets, the impact of choices regarding Capital Projects on the GMWC Operating Budget and the realities of GMWC's fiscal capacity.

GMWC STRATEGIC PLAN 2019-2023

STRATEGIC THEMES					
PERSPECTIVES	STRATEGIC OBJECTIVES	STRATEGIC MEASURES	TARGETS	INITIATIVES	
PROVIDE FIDUCIARY STEWARDSHIP	Explore New Revenue Growth Opportunities (Ex: Selling Lab Services)	Revenue from new customers or more from existing		<ul style="list-style-type: none"> Lab Accreditation Do feasibility analysis to provide lab services externally Develop business plan based on feasibility report Develop business plan bases on feasibility report Develop & Implement Business Plan Explore other revenue generating opportunities Sell bulk non-potable water for sewer flushing, etc. 	
	Financial Sustainability	Asset Deficit	Identify by 2021	<ul style="list-style-type: none"> Develop & Communicate infrastructure scorecard Complete 15 year user fee analysis based on needs of Cap Ex Reserve Centralization of purchasing contracts with other government partnerships 1 Six Sigma Project per year 	
		Cost per customer \$/M3	Identify by 2021		
		Maximize cashflow	1 purchasing contract / year		
	Receive revenue within 90 days of invoicing	90%			
SERVE OUR STAKEHOLDER	Governance Leadership	Governance Education Government Interactions	1 Session / year	<ul style="list-style-type: none"> Create and education program to inform stakeholders Communication Strategy (Web, regular, e-newsletter, news releases, community updates, ratepayer cost updates) GMWC role review as it relates to legislation with Municipalities Update Commission orientation package (Policies, by-laws, talking points, background, signing authority) Continuous Board Development (Skillset) Pro-actively develop a skill matrix/equity guide for the recruitment of board members 	
		Attendance at meetings and Open Houses	80% attendance and attend one Open House		
	Attract New Strategic Partners	Create Economies of Scale with strategic partners	1 new partnership with agreement		<ul style="list-style-type: none"> Meet with Municipalities to discuss partnership (PPE, Stationary, IT, other) Meet with other WWTP/Province to discuss Partnerships (Chemicals, Fuel, other)
	Stakeholder Engagement	Enhance Communication Plan	10 speaking engagements / year		<ul style="list-style-type: none"> Speak at Local Universities and High Schools Speak at GMCC and conferences Create Events on Site - Tailgate Event with Public Community Garden on Property
MANAGE INTERNAL PROCESSES & PROMOTE TECHNOLOGY INNOVATIONS	Meet the 2020 Requirements & Outperform Expectations	TSS# days meet regulations	100% complete on budget	<ul style="list-style-type: none"> Completion of projects: <ul style="list-style-type: none"> 2019 - Phase 1 & 2 completion 2019 - 2020 Phase 3A, B, C Phase 4 and 5 	
		BOD# days meet regulations	Meeting the 25 mg/liter TSS and BOD targets prior to 2021		
		Fecal coliform in the effluent	70% coliform removal		
		LC50 Toxicity	70% success rate		
	Increase Compost Site Throughout	Pile Testing Approval	80% Category A success rate	<ul style="list-style-type: none"> Generate more sludge viaBNR process leading to 25% increase in compost production Analyzing the possibility of using sludge from other producers EMS/Bio-solids Management Policy - Compliance & Updating Move the bark pile closer to the operation Increase compost advertising Increase compost accessibility to the public 	
		Process Efficiency	1 Efficiency / year		
		Manufactured topsoil	Increase by 5% each year		
	Explore new innovated processes that support resource recovery	Reduce TransAqua Environmental Footprint by reducing electrical demand	1 new initiative / year	<ul style="list-style-type: none"> Heat Recovery Process turbine feasibility Solar Power Rooftop gardens Gas powered generators 	
		Energy consumption	Reduce by 1% / year beginning in 2021		
	Infrastructure Sustainability	Preventative Maintenance verves Reactive Maintenance	Achieve 20% Reactive Maintenance Rate by 2021	<ul style="list-style-type: none"> Collector Plan 2nd Tunnel Facility Bypass strategy Risk mitigation plan - develop, implement, test Asset Management System (develop long term capital replacement and upgrading plan) 	
		Equipment Inspection Frequency	90% of schedule maintenance completed on time		
		All sewer pipes flushed and inspected every 5 years			
Asset Investment Rate		10 year average investment rate = 1.5%			
% of sewer pipe in poor / very poor condition		15%			
PROMOTE LEARNING / GROWTH	Operational Sustainability	Reactive Maintenance completed on Overtime	Reduce by 2%	<ul style="list-style-type: none"> Succession Plan Successful negotiation of collective agreement Review Org Structure All Required to go through Six Sigma training Employee Engagement and Education Records Management Risk mitigation (Cyber Security) Risk Management Strategy 	
		Safety Issues resolved	Increase by 3% / year		
		Monthly Safety Talks	1 / month		
		Employee Industry Education / Training	Minimum of 40 hours / year = 10 CEU's		

Financial Capacity

This section will outline the amount of infrastructure GMWC is responsible for operating, maintaining, and replacing at the end of its life cycle. Annual revenue, expenses, operating surplus and the GMWC Capital Program (including the Asset Replacement Program) all play a role in GMWC's financial sustainability while ensuring a fair and stable Residential Unit and Institution, Commercial and Industrial rate structure.

GMWC Infrastructure

TransAqua - The Greater Moncton Wastewater Commission owns and operates wastewater collection, conveyance and treatment and compost infrastructure along with several operational assets such as trucks, heavy equipment, laboratory, land, compost toilets along the Riverfront Trail, etc. The collector and trunk sewers intercept 80 untreated sewer outfalls from flowing into the Petitcodiac River. GMWC currently owns infrastructure with a value of approximately \$172 million with a net book value of \$119 million after depreciation as of June 30, 2022.

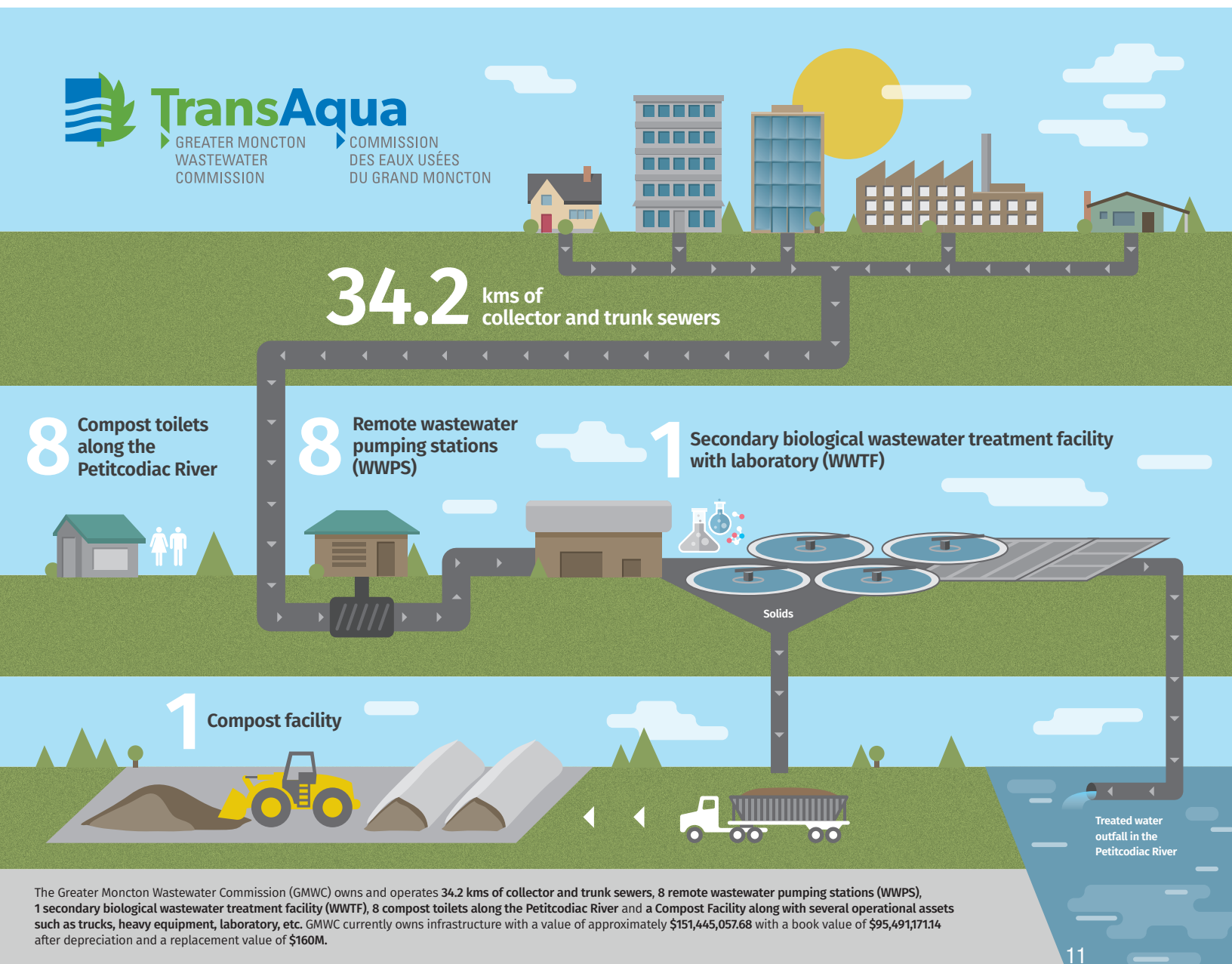
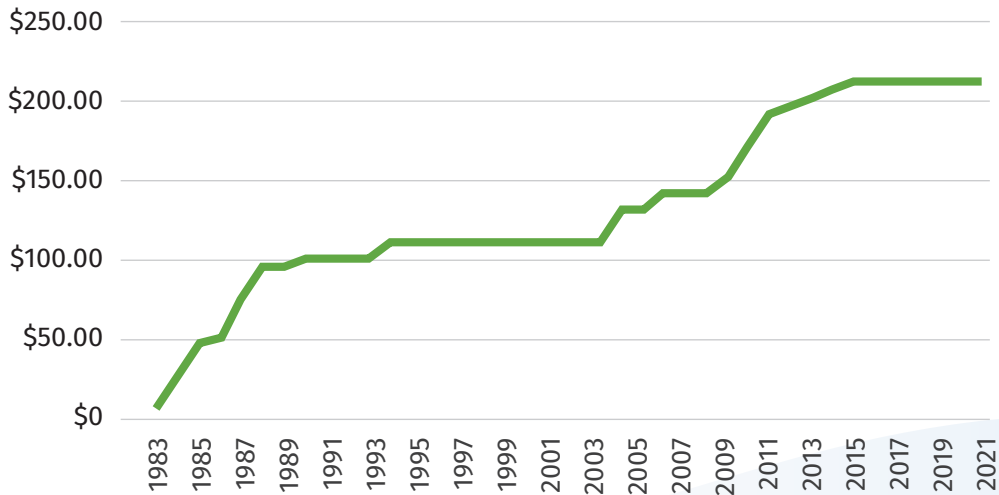


Figure 2: GMWC Infrastructure

GMWC Rate History

The 2022 rate of \$210 / Residential Unit has been the same since 2016. The number of Meter Equivalent Units for billing purposes by the Commission is to be determined by each Municipality by calculating the total annual volume of water consumption by Institution, Commercial and Industrial Users divided by the Meter Equivalent Unit conversion factor which is set at 240 cubic metres per year.

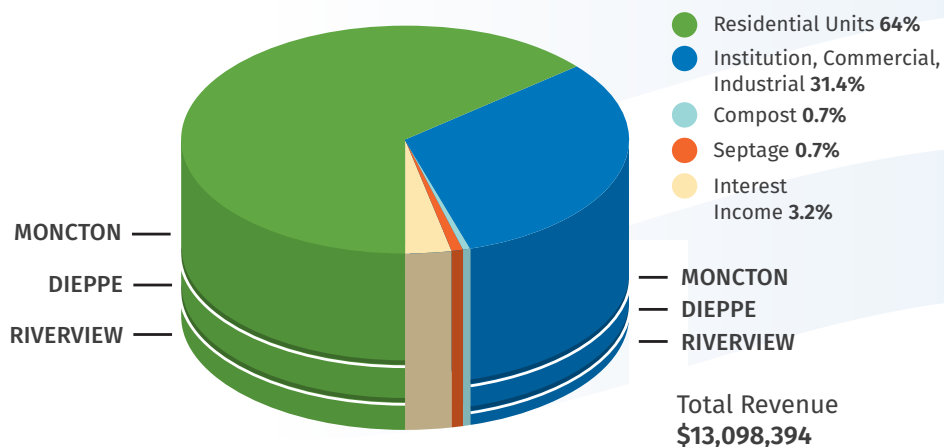
Figure 3: GMWC Rate History



GMWC Revenue

GMWC's main funding sources in 2022 include:

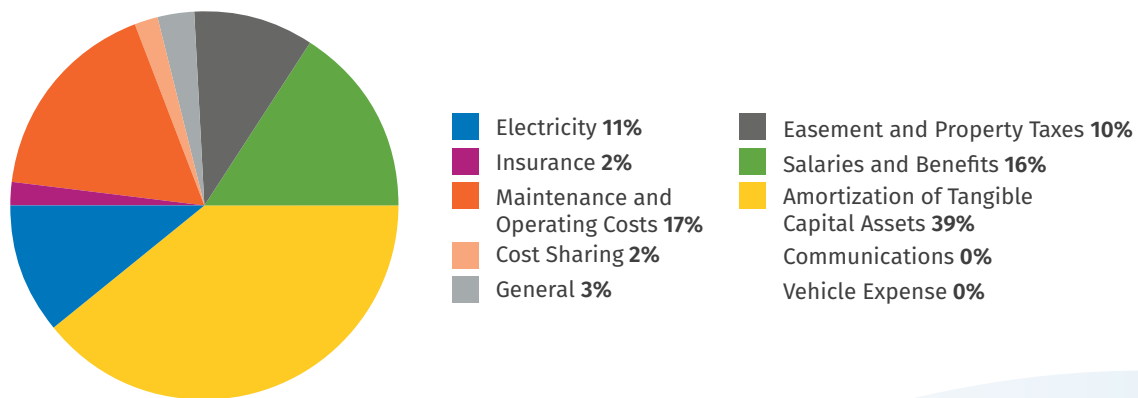
Figure 4: GMWC Revenue Breakdown



2022 GMWC Operating Expenses

GMWC's Operating Budget for 2022 is \$10,311,004. Following is the estimated breakdown of expenses within specified categories. The increase in Operating costs since 2017 is due to the operation of new processes from the \$90.4 million WWTF Upgrade and Modernization Project which increased several operating expenses such as the amortization of tangible capital assets, electricity, property tax, insurance, water consumption, additional operations personnel, and maintenance and operating Costs.

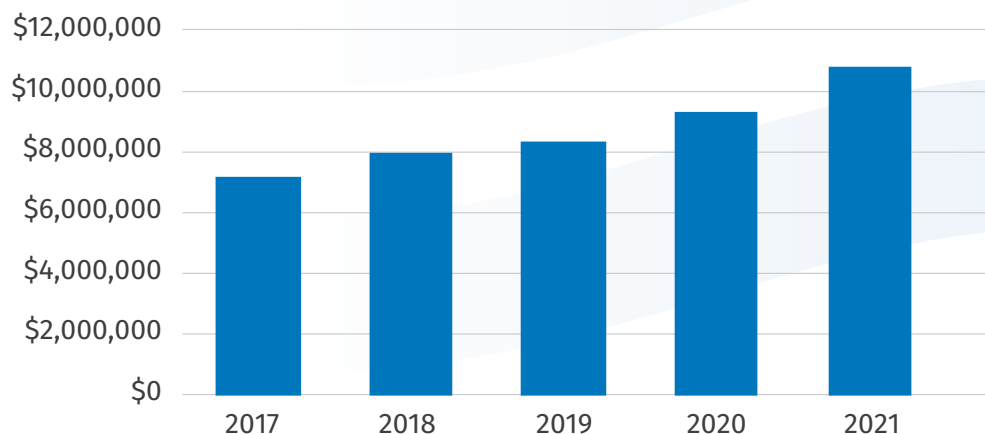
Figure 5: 2022 GMWC Operating Expenses



GMWC Historical Operating Expenses

GMWC's Operating Budget for 2022 is \$10,311,004. Following is the estimated breakdown of expenses within specified categories. The increase in Operating costs since 2017 is due to the operation of new processes from the \$90.4 million WWTF Upgrade and Modernization Project which increased several operating expenses such as the amortization of tangible capital assets, electricity, property tax, insurance, water consumption, additional operations personnel, and maintenance and operating Costs.

Figure 6: 5-year historical GMWC Operating Expenses

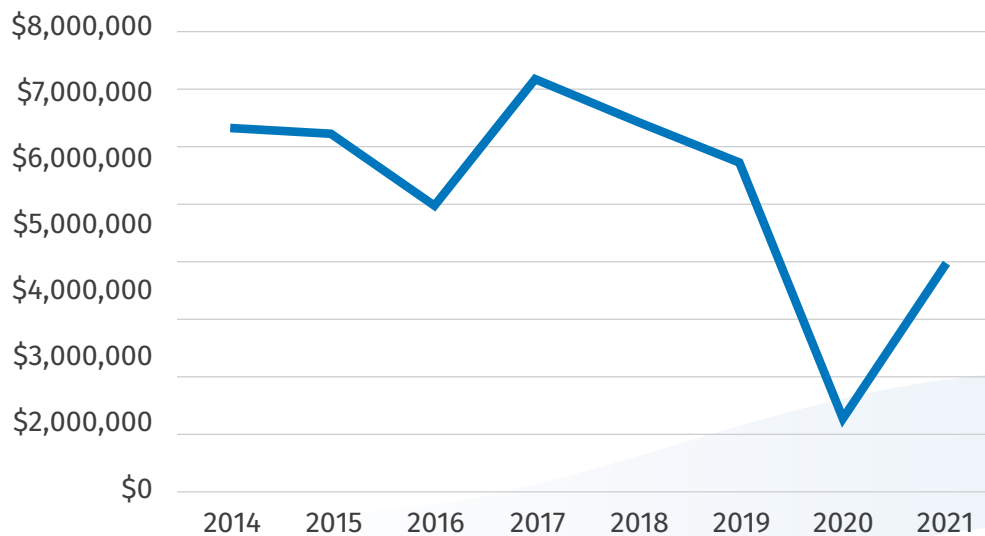


GMWC Annual Operating Surplus

Any Operating Surplus is allocated to the GMWC Capital Reserve Fund at the end of each year through approval by the Commission Board. These funds are used to construct new infrastructure and replace existing assets at the end of their life cycle. An additional \$90.4 million of new infrastructure must be operated, maintained, and replaced at the end of its life cycle.

The 8-year average annual Operating Surplus (2014 – 2021) is \$5,240,054.

Figure 7: GMWC Annual Operating Surplus



GMWC Capital Program

GMWC offers wastewater treatment and composting services to the tri-community. GMWC adheres to the 2019-2023 GMWC Strategic Plan's Perspective to provide fiduciary stewardship with prudent financial planning that balances short-term operating needs with long-term public amenity and infrastructure requirements. To ensure that appropriate capital investments are made to advance GMWC and ratepayer priorities in a fiscally prudent and financially sustainable manner while considering external economic conditions that could have an impact on ratepayers, GMWC's capital planning process is guided by a set of financial sustainability guiding principles and financial health targets.

1. Financial Sustainability Guiding Principles

Fiscal Prudence

- Live within our means
- Consider long-term implications in all decisions
- Maintain a stable and predictable revenue stream
- Preferably continue to operate with no debt
- Build in flexibility and contingencies for emerging priorities and opportunities

Affordability and Cost Effectiveness

- Deliver the wastewater and composting services that continue to be relevant and that result in desired public outcomes
- Ensure value for money through productivity and innovation
- Keep the rates affordable, consistent and predictable

Asset Management

- Maintain assets in an appropriate state of repair
- Optimize capital investments to meet public and economic needs while achieving value for investment

2. Funding Strategy for Capital Investments

GMWC takes a comprehensive approach to assessing the short and long-term economic indicators to inform the development of the 15-year Capital Plan. GMWC funds capital investments from the annual operating surplus that is transferred annually to the GMWC Capital Reserve Fund that acts like a savings account. These funds are invested according to GMWC By-law #6 and the GMWC Investment Policy. The Commission Board approved an Investment Strategy in June 2022. The GMWC Capital Reserve Fund has the following investments:

- \$5,394,354 invested in a 3-year Redeemable GIC that matures in June 2025.
- \$5,195,617.67 invested in a 5-year Non-Redeemable GIC that matures in May 2027.
- \$16,800,000 invested in a 5-year Non-redeemable GIC that matures in June 2027.

GMWC researches federal and provincial funding opportunities and makes application to those programs that are applicable to capital projects.

3. Long-term Financial Plan

When developing its long-term financial plan, GMWC maintains a commitment to strong financial discipline to ensure that capital investments will not unduly burden the GMWC Operating Budget through operating costs and asset lifecycle costs. GMWC's Operating bank account is projected to have a balance of \$10,151,798 at the end of 2022.

GMWC ensures that its facilities are right sized to deliver the wastewater treatment and composting services and will continue to advance on operational efficiency. Any new capital investment will ensure facilities are designed with flexible, adaptable and expandable spaces to accommodate increased population and future growth.

Maintaining core infrastructure assets in an appropriate state of repair is critical to GMWC's long-term financial health and resilience and helps ensure asset management obligations are not deferred and infrastructure deficits do not accumulate to unacceptable levels.

A third-party auditor completed a Rate Analysis in 2021 based on the 2021 cashflow and future cashflow based on budget surplus projections that will change each year. The current cashflow model demonstrated that the current Residential Unit rate of \$210 will allow GMWC to remain financially sustainable. If a net new project is required to be designed, constructed and commissioned before 2036 that is not listed within the GMWC Capital Budget, the estimated cost will be placed into the cashflow model to determine the impact to the unit rate. This will allow for an informed decision to approve any new project that may result in raising the unit rate or decline the new project to allow the unit rate to remain at \$210.

Asset Management System

The GMWC Board approved the GMWC Asset Management Policy in October 2018. The purpose of this Policy is to establish effective management control over GMWC infrastructure assets that is aligned with ISO55000 principles. It is necessary to select the optimal infrastructure investment option that will achieve the lowest whole life cost of asset ownership while ensuring the highest level of service delivery to the ratepayers. A sustainable approach will be taken to ensure that the asset portfolio is not increased or modified without considering the impact on service delivery and the associated ability of ratepayers to fund future asset replacement, maintenance and rehabilitation.

The GMWC Board approved the GMWC Asset Management Strategy in December 2019. This Strategy is part of a comprehensive infrastructure asset management approach that supports the 2019-2023 GMWC Strategic Plan and promotes the effective and efficient planning, design, acquisition, construction, installation, commissioning, operation and maintenance, renewal and disposal of assets at the appropriate time in a long-term and financially sustainable manner. TransAqua is committed to creating a clear line of sight between the Strategy, Policy and procedures while striving for continuous improvement of the Asset Management Program.

The Strategy provides TransAqua's approach to Asset Management. It identifies where TransAqua is currently aligned with practices related to asset management, where TransAqua would like to be and how TransAqua will get there. The Strategy identifies the 7 Steps – Knowledge and Competencies, Governance, Assess, Commitment, Plan, Implement and Measure for the next 5 years. Within these 7 Steps, issues related to consistency, risk, life cycle, asset function, performance and condition requirements and continual improvement are identified.

The Asset Management Strategy provides the following:

- An approach and process to develop an asset management plan;
- Clarify the roles and responsibilities of the asset management team;
- Identify TransAqua's asset management objectives;
- Displaying a plan for implementing the asset management policy;
- Identify the current status of the asset management practices and the required practices to achieve the asset management policy and future vision; and
- Identify the project resources requirements for developing and implementing asset management plans, including future requirements for capital, operation and maintenance

The GMWC Board approved the GMWC Asset Management Plan in June 2022. The purpose of the Asset Management Plan is to develop a link between the existing asset management policy and strategies and the technical asset management requirements.

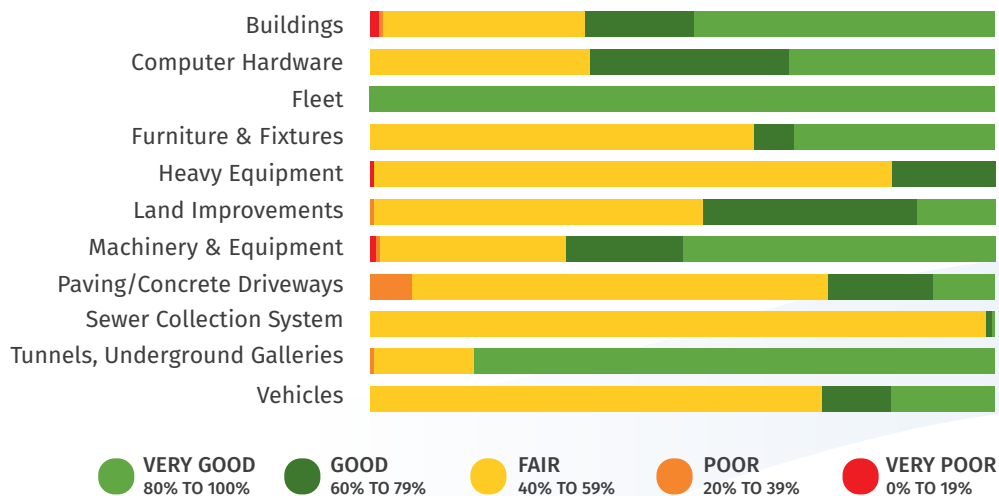
As the assets age their risk level generally increases. High-risk assets are assets that are required to operate to ensure the federal effluent regulations are met. It is imperative that mitigation measures be generated to reduce the risks associated with that the catastrophic failure of these assets. Potential mitigation measures include increased monitoring and inspections, capital investment, refurbishment, determine the level of acceptable risk, enhanced maintenance, critical spare part inventory, etc. It is crucial to continue to review the critical asset list and make revisions on a regular basis to ensure all assets are captured and evaluated. An Asset Risk Assessment and Mitigation Plan was identified for critical assets including but not limited to the Main Pumps, Bioreactor Blowers, Dewatering Centrifuges, Recirculating Sludge Pumps, Backup Generators, and major electrical infrastructure. Most of the process equipment is currently provided with redundancy to allow for maintenance and repairs to be completed without interruption to the overall operations. Potential mitigation measures include: increased monitoring and inspections, capital investment, refurbishment, determine the level of acceptable risk and enhance maintenance.

Asset Replacement Plan

GMWC staff has developed a 100-year Asset Replacement Plan that captures all assets to the end of their life cycle. This Plan outlines which assets are due to be replaced in each year along with the replacement cost. A 2% / year inflation cost has been applied to each asset due to be replaced in future years. For the purposes of the GMWC 2022 Business Plan, a 15-year Asset Replacement Plan has been developed.

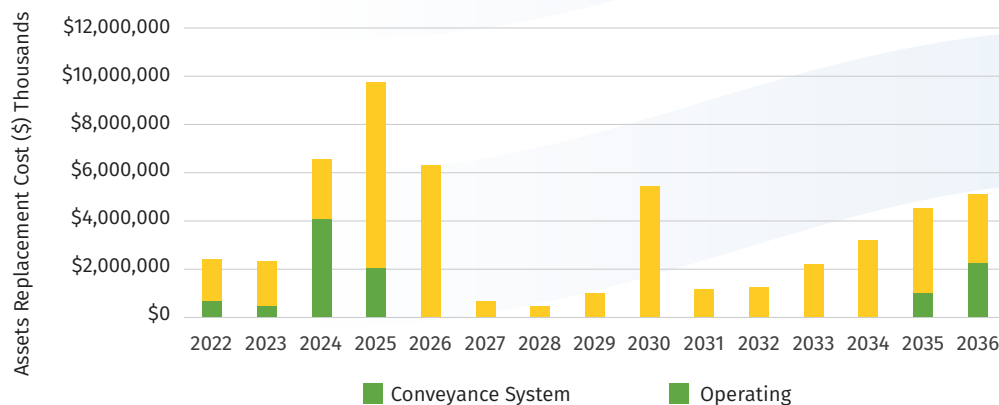
GMWC has completed an asset condition assessment and the existing assets are mostly in fair to very good condition with ratings provided for more than 2268 assets. Theoretically, where an asset's life cycle is 25 years and there are 5 condition categories (Very Good, Good, Fair, Poor and Very Poor), every 5 years, the asset is assumed to move into another category (19-year-old asset = Poor). The assets in the liquid department are currently in the best condition with 0% of assets being in poor or very poor condition. Based on the condition data the assets with the lowest condition ratings are the Compost Facility. The results of the condition analysis assessment is as follows.

Figure 8: Asset Condition Assessment



Understanding the how long an asset life cycle is and the completion of the condition, the 15-year annual asset replacement expenditures are estimated as follows:

Figure 9: GMWC 15-year Asset Replacement Profile



Asset Replacement Plan

Considering that GMWC wastewater treatment process has been in operation since 1994, it is estimated that \$27 million was required in 2022 to replace all assets at the end of their life cycle. Each year, GMWC replaces assets that are in poor condition or fail prematurely. As a Best Management Practice, staff completed a field condition analysis of all assets within the 15-year Asset Replacement Plan. Some assets at the end of their life cycle are still in operation that requires little maintenance. While the asset replacement costs may be the same over a 15-year period, staff were able to spread out the initial \$27 million in 2022 cost to ensure a stable unit rate. Each year, assets at the end of their life cycle will be assessed to determine if they must be replaced the next year. If not, the asset will be moved to the next year. While some vehicles may have a life cycle of 5 years, good maintenance practices could allow them to operate for 10 or more years delaying costly replacement. The 15-year average annual asset replacement cost is estimated to be just over \$2.7 million.

GMWC Infrastructure Deficit

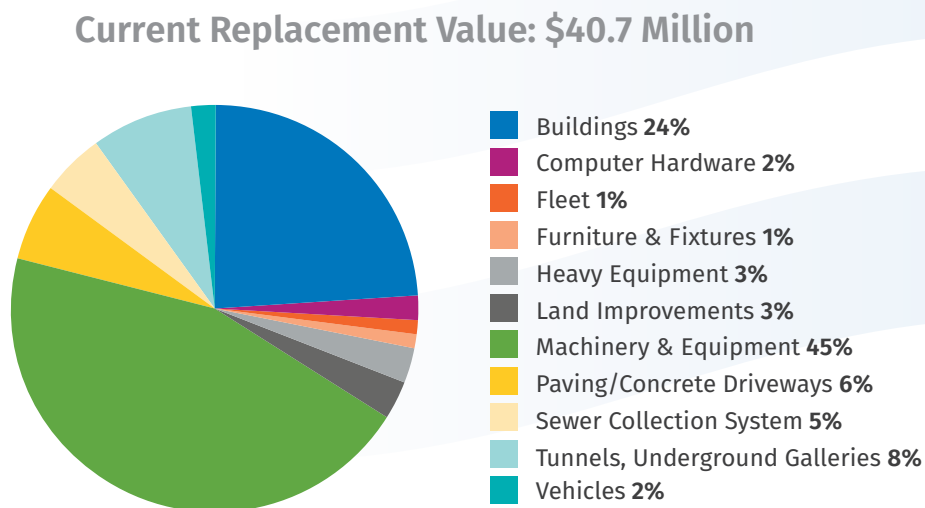
Referring to the 2019-2023 GMWC Strategic Plan, staff identified the 15-year Infrastructure Deficit and developed the 2022 GMWC Business Plan that would align current and future financial resources as it relates to the rate structure. This Business Plan will identify any funding gaps and recommend a rate structure that ensures GMWC's long-term financial sustainability.

GMWC is regularly confronted with difficult choices in setting and funding its priorities. Important tenets when making those decisions regarding capital investments include:

1. Providing a high level of wastewater collection, conveyance and treatment and composting service to the ratepayers.
2. Consistently maintaining existing assets in fair condition at a minimum (recapitalization) – refurbish versus replacement of old assets at the end of their life cycle.
3. Meeting the stakeholder's needs and expectations.
4. Responding to new community or Commission priorities (new or expanded mandates such as green initiatives and becoming environmentally sustainable).

The following chart summarizes the replacement value of the assets by category. The value of the land is excluded from replacement value.

Figure 10: GMWC 15-year Infrastructure Deficit



Resources Needed to Meet Goals & Objectives

The Commission Board provides the resources required to successfully undertake the Strategic Initiatives. There are currently 6 volunteer Commission Board members and 16 full-time equivalents that are responsible for the governance and operations of the Commission's wastewater collection, conveyance, treatment and compost facility assets.

The New Brunswick Department of Environment and Climate Change issues GMWC's Approval to Operate for the wastewater works and compost facility. There is a requirement to have a certified Wastewater Treatment Class 4 and 3 and a Wastewater Collection Class 3 and 2 Operator. GMWC currently meets this requirement based on the following certifications held by staff: Quality Control Manager (Class 4 WWT and Class 3 WWC), Operations Manager (Class 3 WWT and Class 3 WWC). There are currently two Class 3 WWT Operator-in-Training resources.

Next Steps

Staff will continue to increase operational efficiency and stability by increasing preventative maintenance activities and undertaking cost savings initiatives through Six Sigma projects, chemical and potable water use and developing the Energy Management System to reduce, where possible, the consumption of electricity and fossil fuels.

The following initiatives will be undertaken to continuously improve GMWC's financial sustainability objectives.

- Develop a master inventory list with a unique identifier that can be applied to all future asset lists. We recommend utilizing the continuity schedule and adding the following information: asset condition, critical assets, operation and maintenance costs, and updated condition data.
- Provide accurate condition ratings for all critical assets on a yearly basis by conducting inspections or interviews with operating staff.
- Conduct Risk assessments of critical assets on a yearly basis to develop a risk based financial planning approach.
- Carryout the mitigation measures for all high-risk assets identified.
- Establish a baselined operating expense for enhanced forecasting of operational costs
- Incorporate changes such as changes to levels of service, regulatory requirements, strategic planning into capital forecasting.