Cramahe Water System

Financial Plan Project
with
Water and Wastewater Rates

Tuesday, February 9 2021

Sharratt Water Management Ltd.
Sustainable Water Management Specialists

Project Purpose

- Develop Water Financial Plan
  - Develop Water/Wastewater Rates
- Approval of Plan and Submit
  - Ontario Government

Water Regulation Changed in 2000

- Walkerton a water regulation landmark
  - Public inquiry
- Safe Drinking Water Act Passed in 2002

MOE Regulations

- 2002 Safe Drinking Water Act
  - Utilities to be licensed

- Elements to obtain a license:
  1. A Permit to Take Water
  2. A Drinking Water Works Permit
  3. An Operational Plan, and
  4. An Accredited Operating Authority
  5. **A Financial Plan**

Financial Plan Steps

- Project capital renewal/replacement needs
  - Project all water asset costs to 2099
  - Wastewater assets projected to 2099
- Develop a cost recovery plan
  - Capital renewal costs to 2099
  - Operating costs to 2030
  - Estimate # of users/water sold
  - **Develop rates**
- Prepare Financial Plan based on above

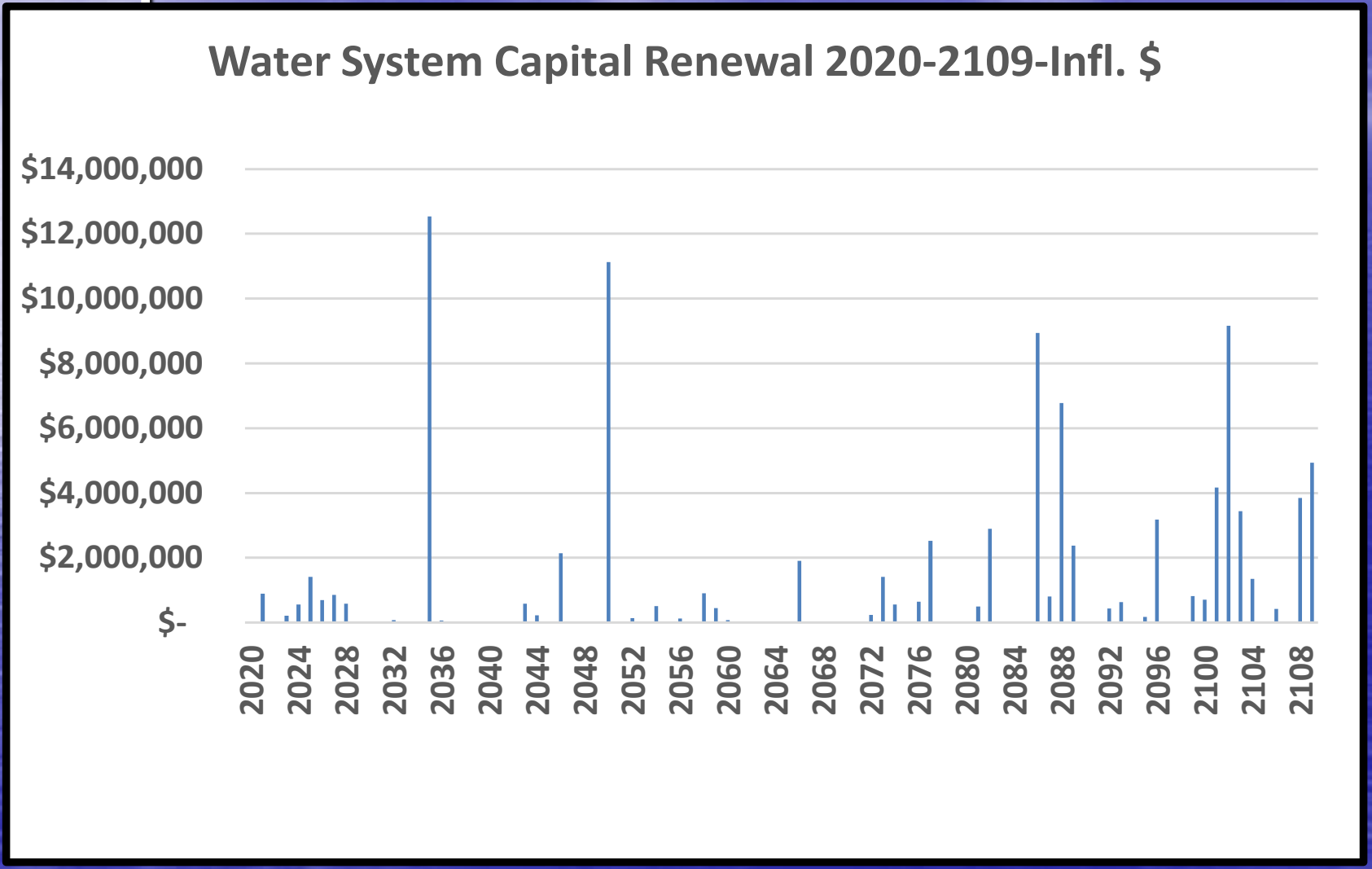
Cramahe Water/Wastewater System

- Water
  - Estimated 2019 Repl. Value $19 million
  - 108 Assets listed
  - $18,756
- Wastewater
  - Est 2019 Repl. Value $20 million
  - 447 Assets
  - $21,030 per connection

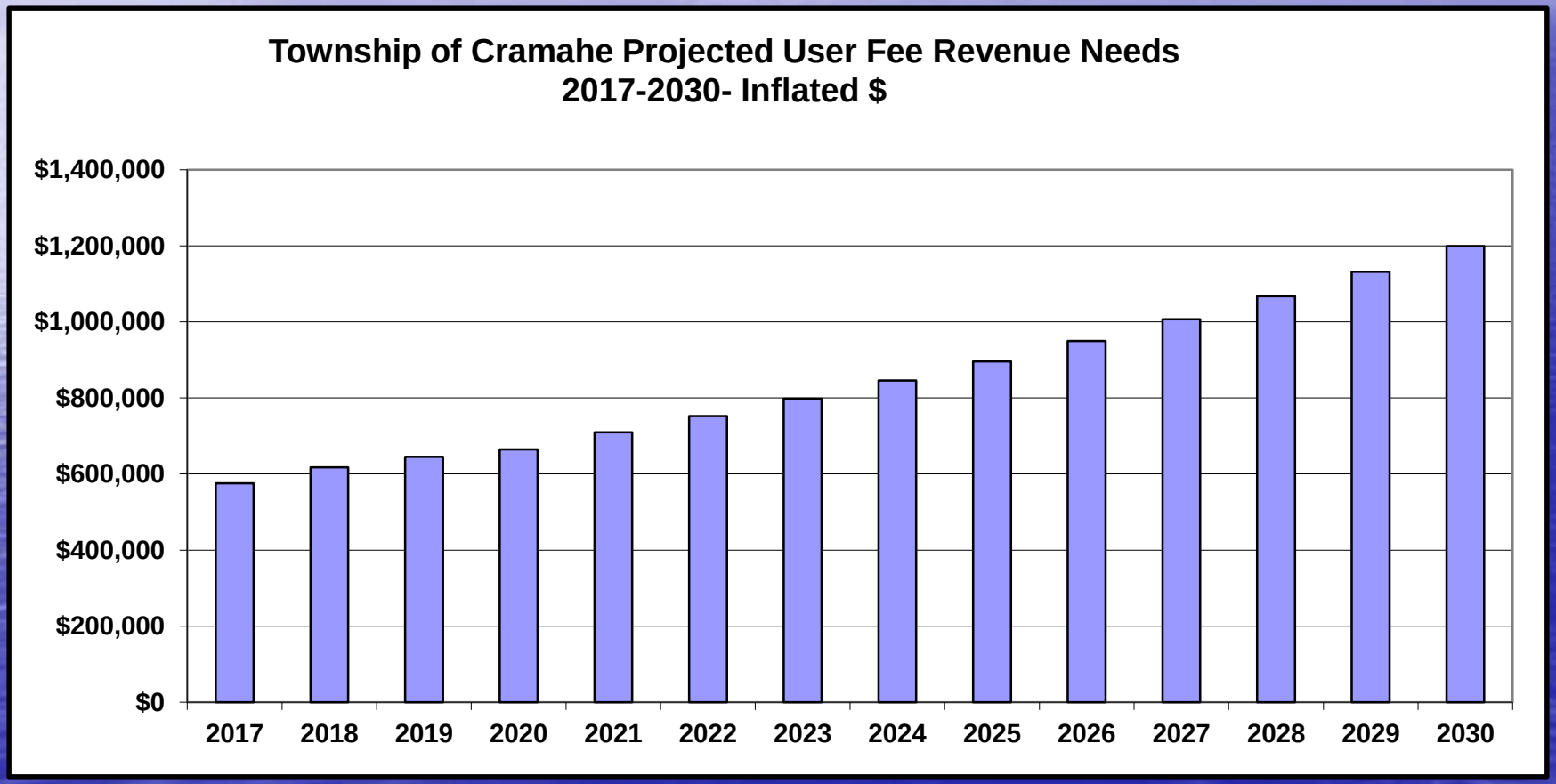
Cramahe Rate Setting Assumptions

- Inflation – Most 2%, 5% for energy
- Capital Projection – 3% inflation
  - (construction price index)
- Rate type – two part rate
  - Fixed component – monthly charge based on meter size
  - Volumetric – based amount of water used

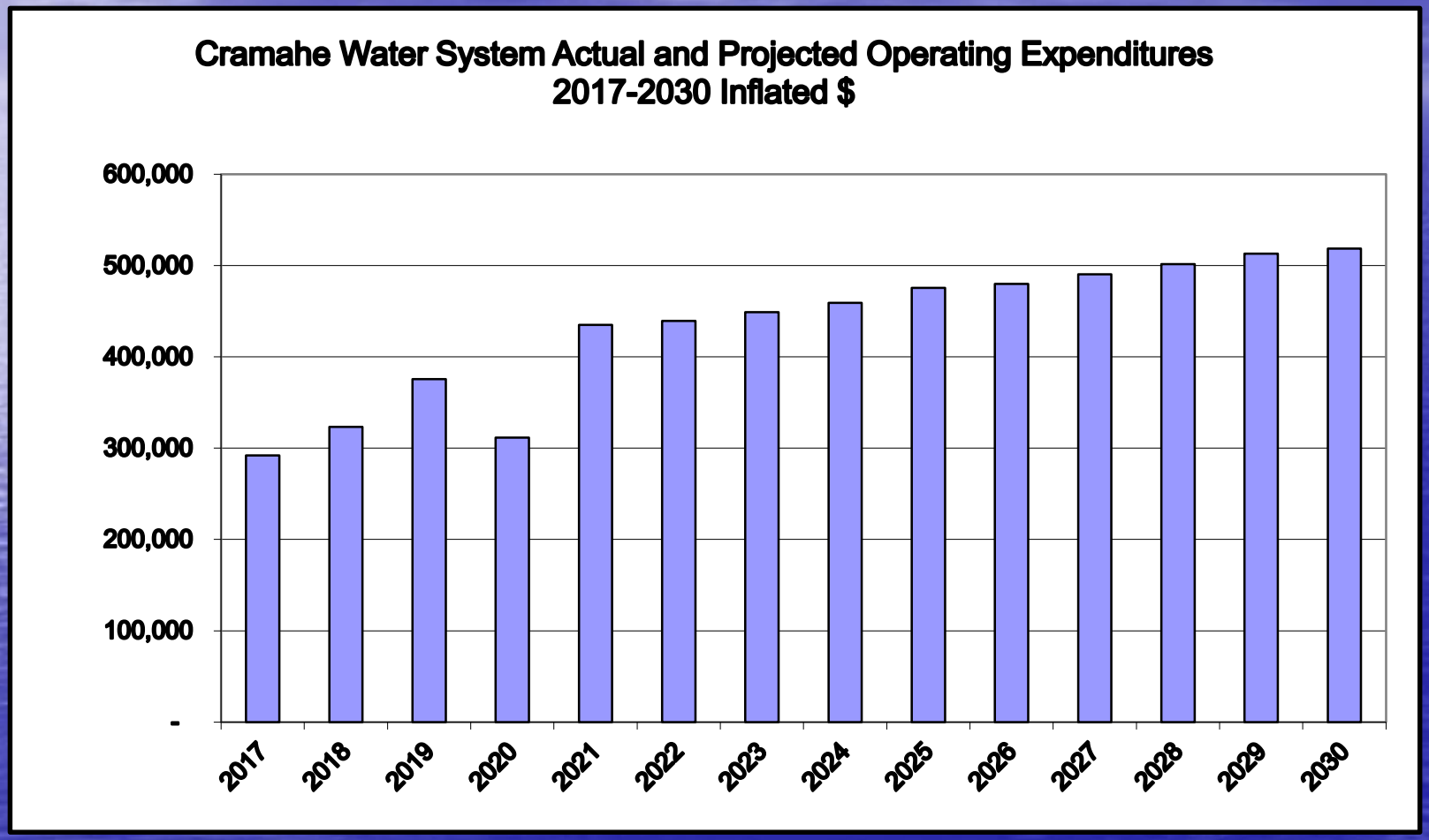
Capital Needs to 2109



User Fees 2017-30 Infl. $



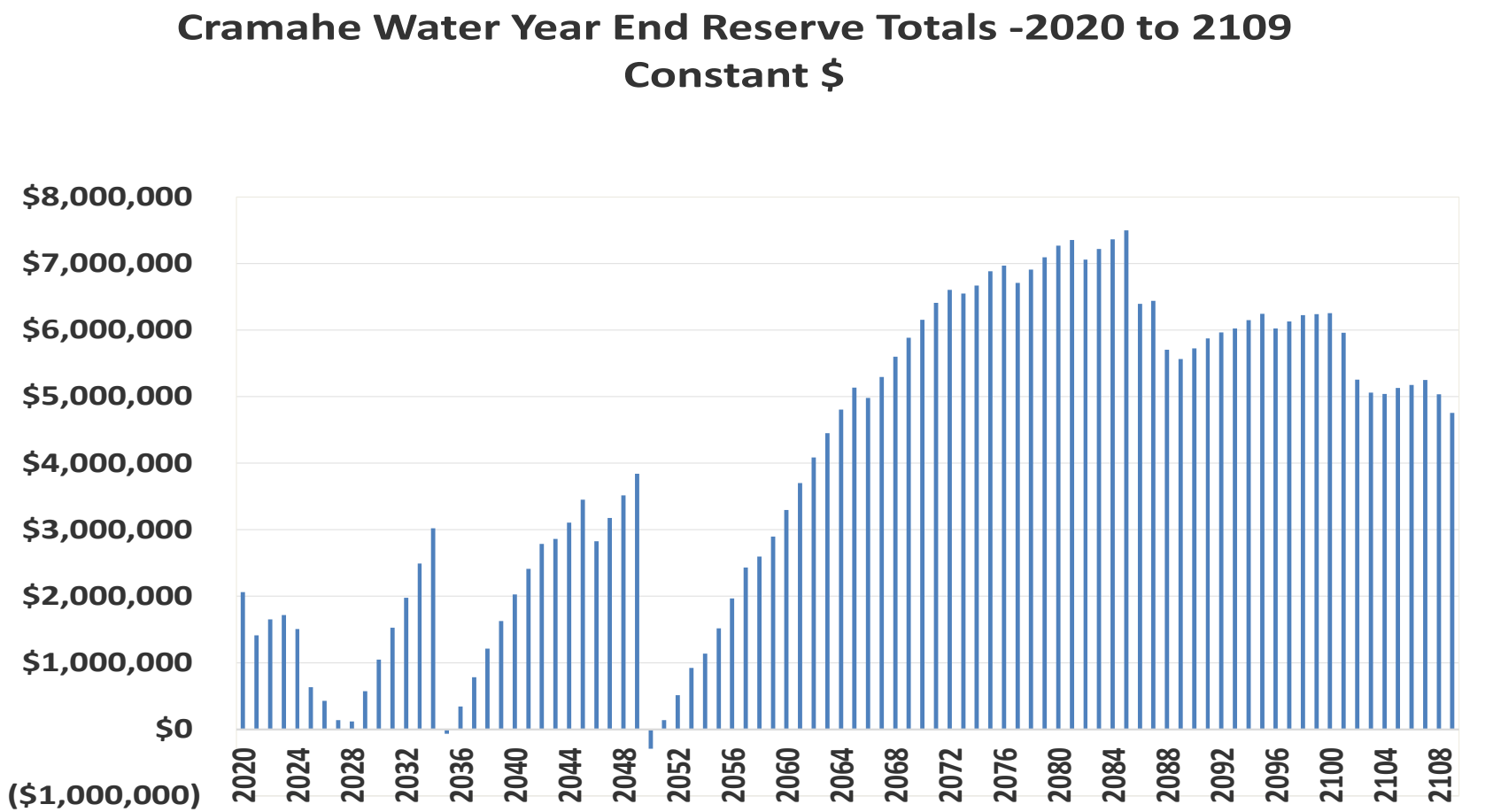
Water Expenditures 2017-30 Infl $



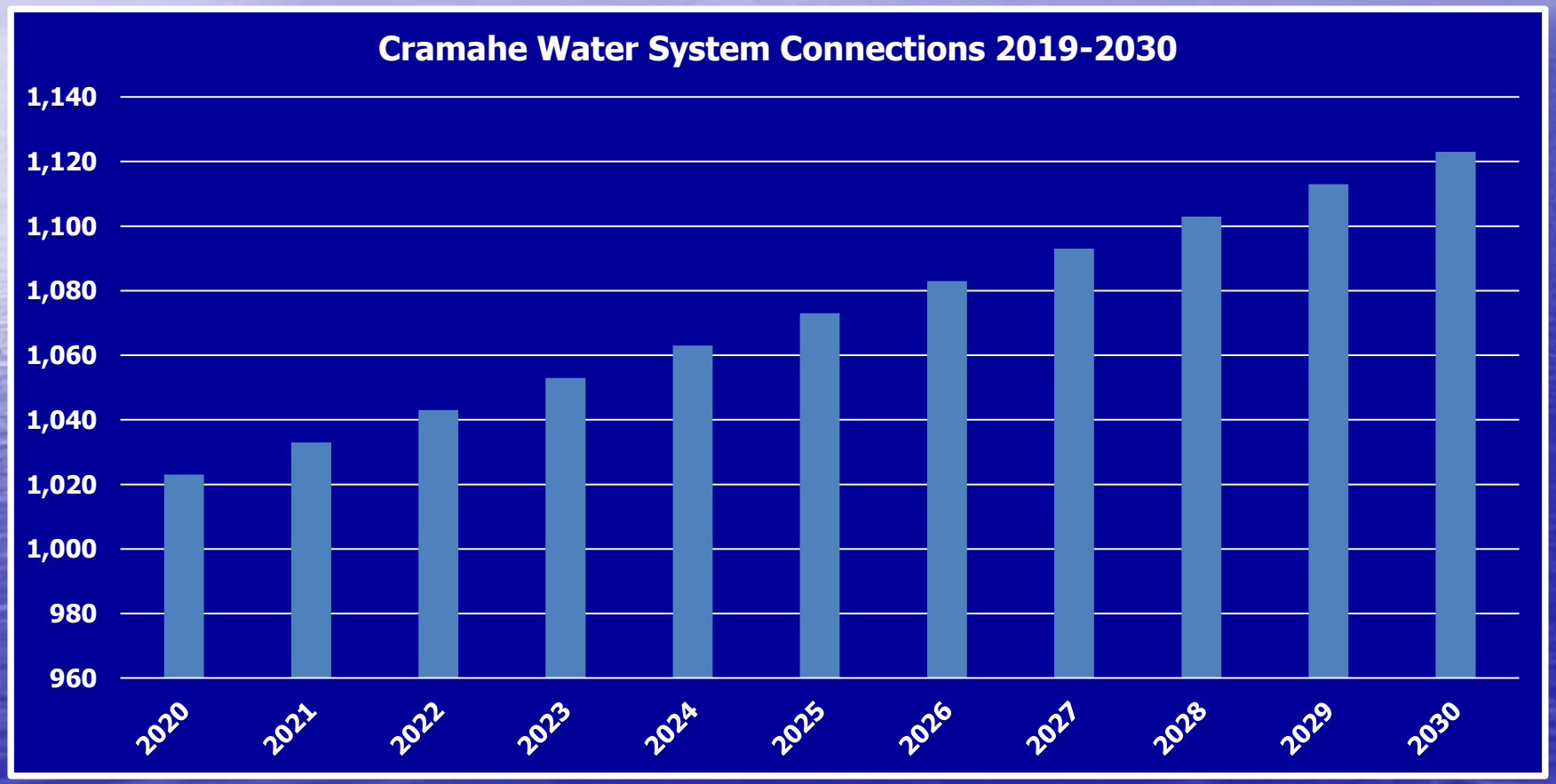
Water Reserve 2020-2030 Infl.$

	2020	2021	2022	2023	2024	2025
Opening Value	$1,789,744	$2,122,447	$1,500,179	$1,807,333	$1,931,490	$1,749,458
Addition (Withdrawl) from (to) Ops	$332,703	($622,268)	$307,154	$124,157	($182,032)	($994,018)
Interest on Deficit (loan)	$0	$0	$0	$0	$0	$0
Close Inflated $	$2,122,447	$1,500,179	$1,807,333	$1,931,490	$1,749,458	$755,439
Close in 2019$	$2,060,629	$1,414,063	$1,653,966	$1,716,104	$1,509,097	$632,669

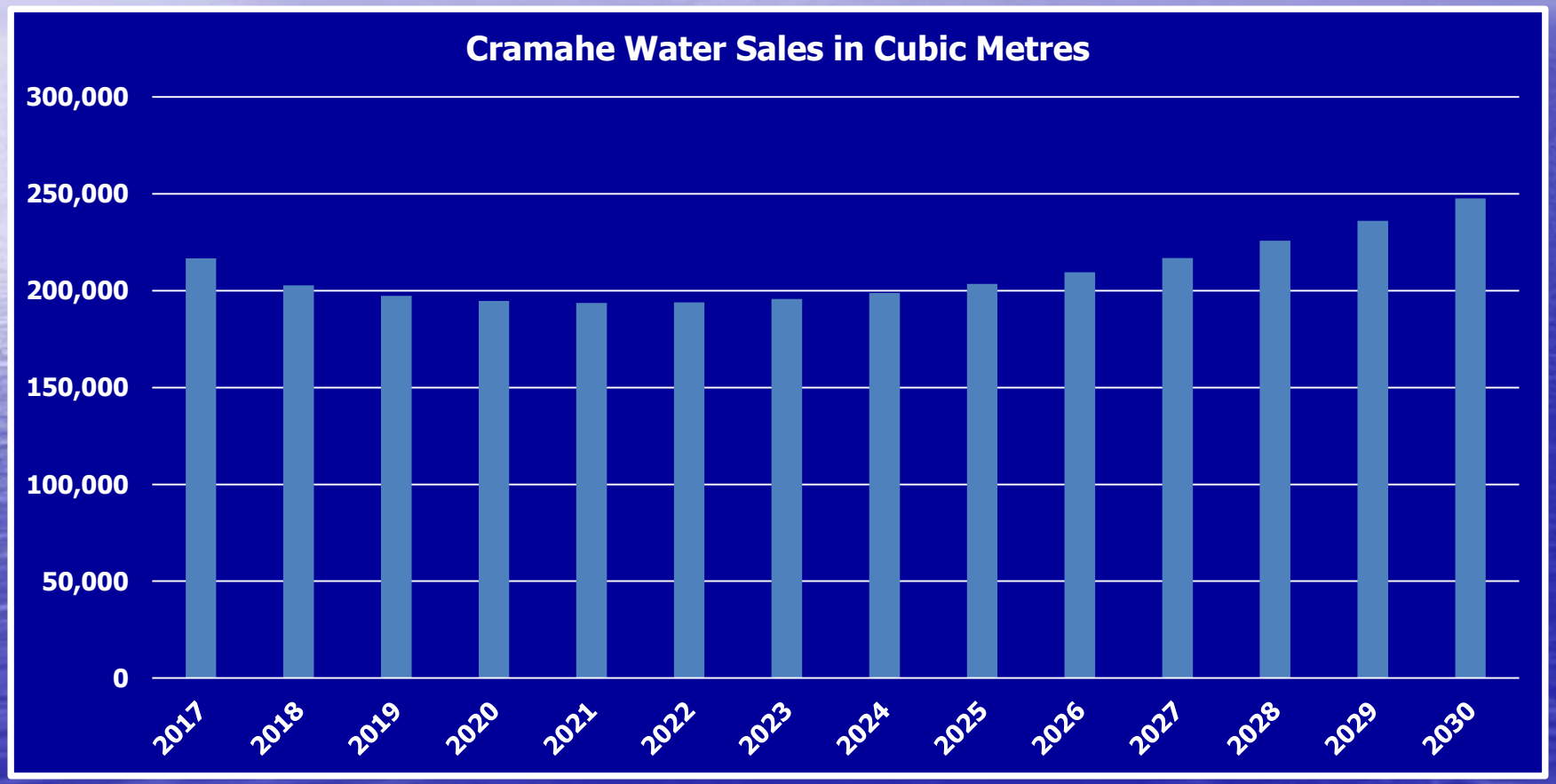
Long Range Reserve Projection



Connections



Projected Future Water Sales M3



Proposed Rates Infl. $

	2020	2021	2022	2023	2024	2025
Metered Fixed per Month						
Meter Size in mm (inches) 15 (0.62)	22.79	23.25	23.21	24.21	25.00	26.26
20 (0.75)	22.79	23.25	23.21	24.21	25.00	26.26
25 (1.00)	31.90	32.54	32.50	33.89	34.99	36.77
40 (1.50)	41.02	41.84	41.78	43.57	44.99	47.27
50 (2.00)	66.09	67.41	67.32	70.20	72.49	76.16
75 (3.00)	250.67	255.68	255.35	266.29	274.95	288.89
Metered Volumetric Charge - All Water						
Per cubic metre	$ 2.06	$ 2.16	$ 2.29	$ 2.42	$ 2.55	$ 2.64

Monthly Water Bills Infl $

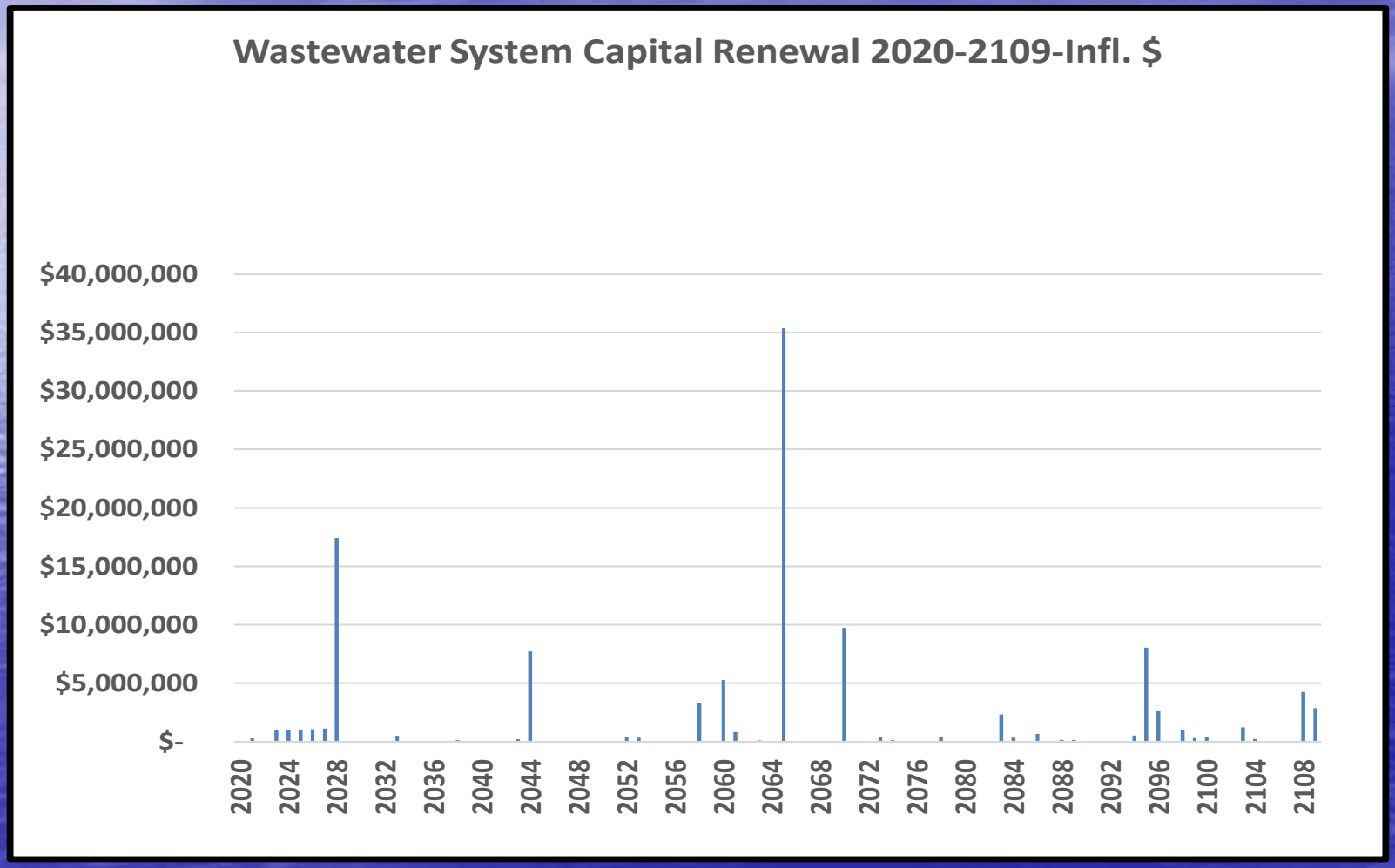
User Category in M3 per Month	2020	2021	2022	2023	2024	2025
Couple 8 M3 15mm (.62") Meter	39	41	42	44	45	47
Family 25 M3 15mm (.62") Meter	74	77	80	85	89	92
Grocery 50 M3 25mm (1.0") Meter	135	141	147	155	163	169
Coffee Shop 150 M3 25mm (1.0") Meter	341	357	376	396	418	433
School 200 M3/Month 50mm (2.0") Meter	478	500	525	554	583	605
Restaurant 450 M3 50mm (2.0") Meter	993	1,041	1,097	1,158	1,221	1,266

Community Yearly Water Bills

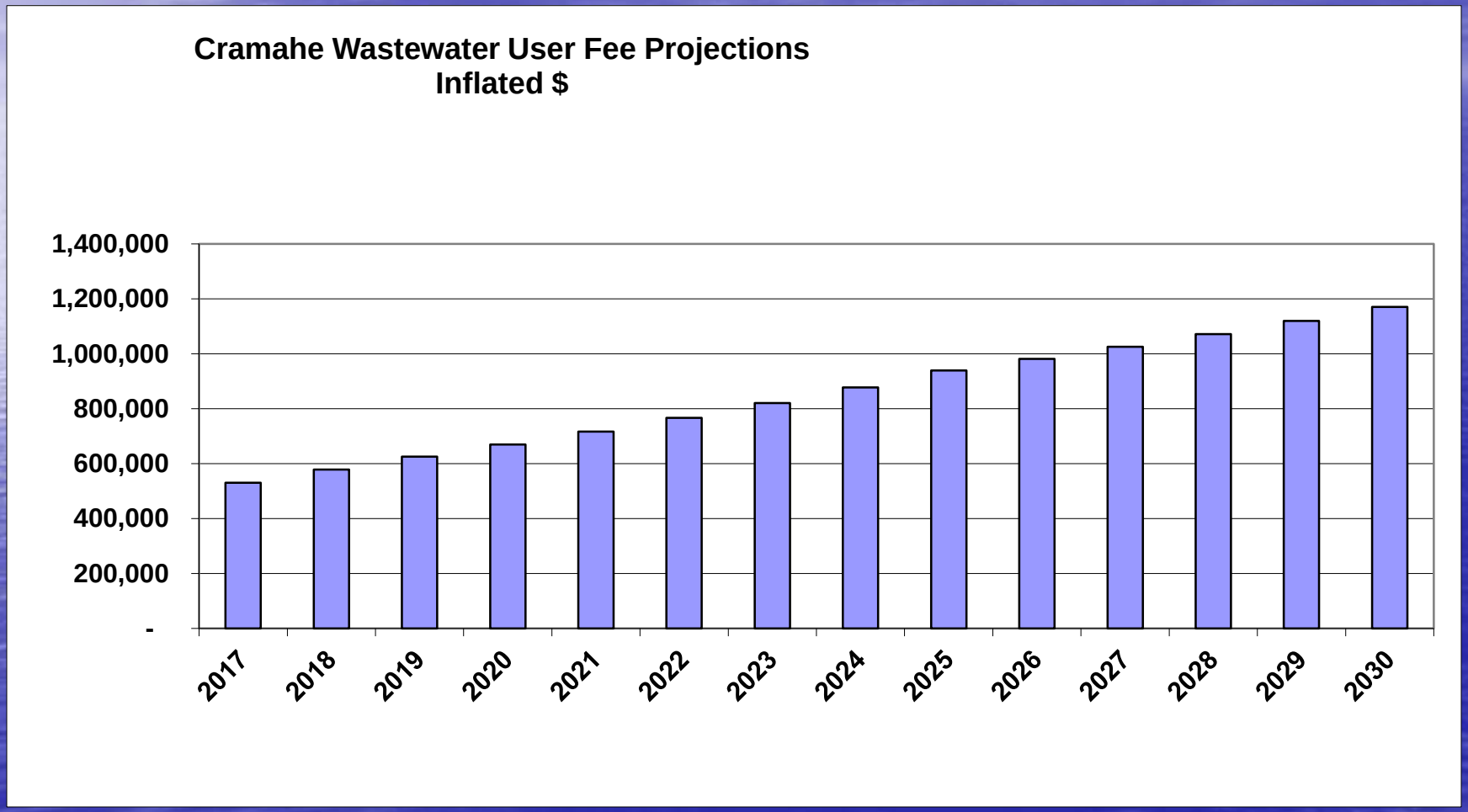
2020

	240 Cubic Metres Per Year (Average)
Utility	**Water Bill**
Coburg	$494
Brighton	$538
Norwood	$542
Bay of Quinte	$566
Toronto	$598
Peterborough	$602
Campbellford, Hastings, Warkworth	$622
Lakefield	$708
Cramahe	$768
Dundalk	$849
Clearview	$884
Grafton	$938
Kawartha Lakes	$1,024
Barry's Bay	$1,123
Mount Forest	$1,208

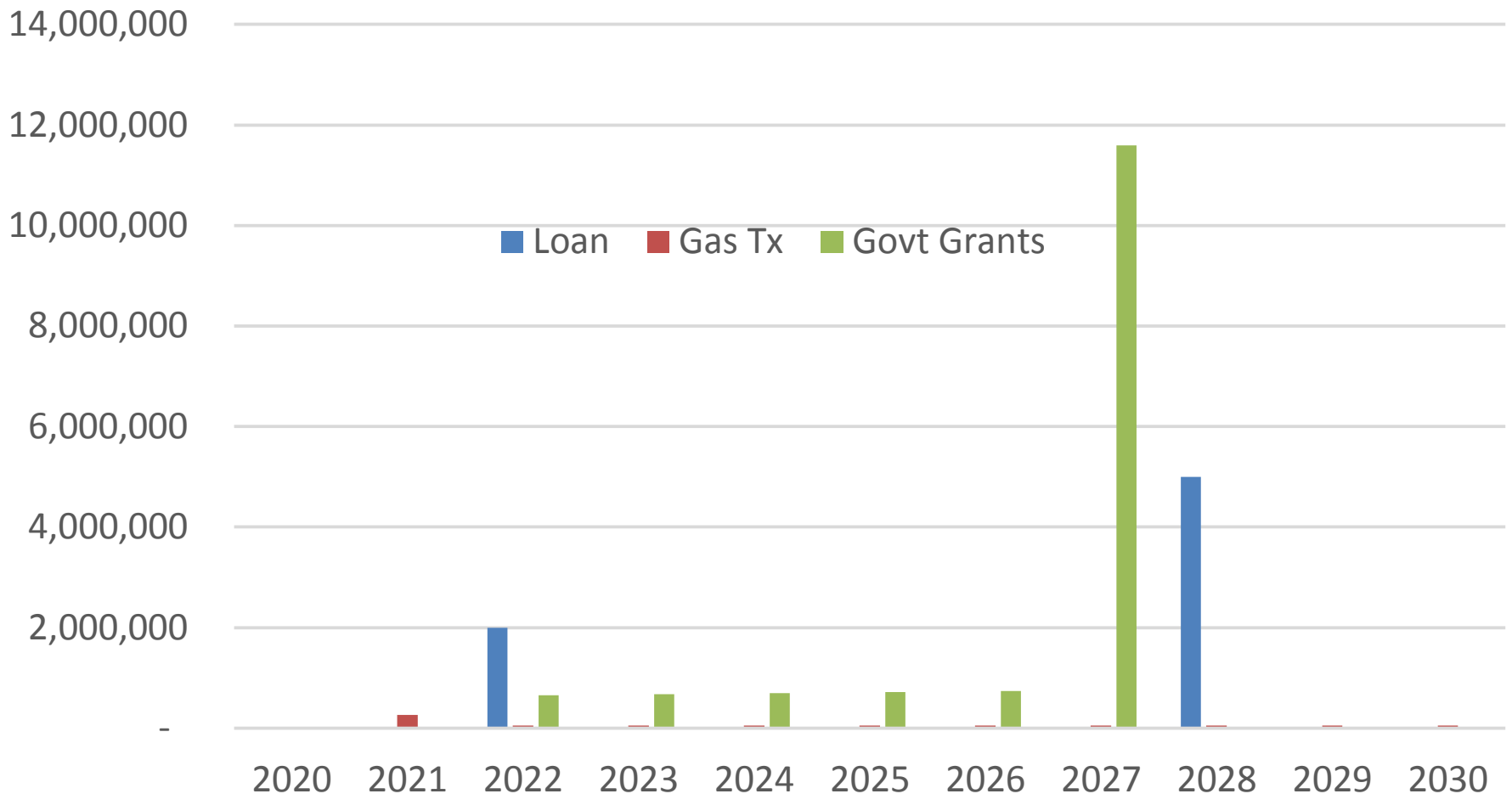
Long Range WWAter Capital Infl $



User Fee Revenues – Inflated $



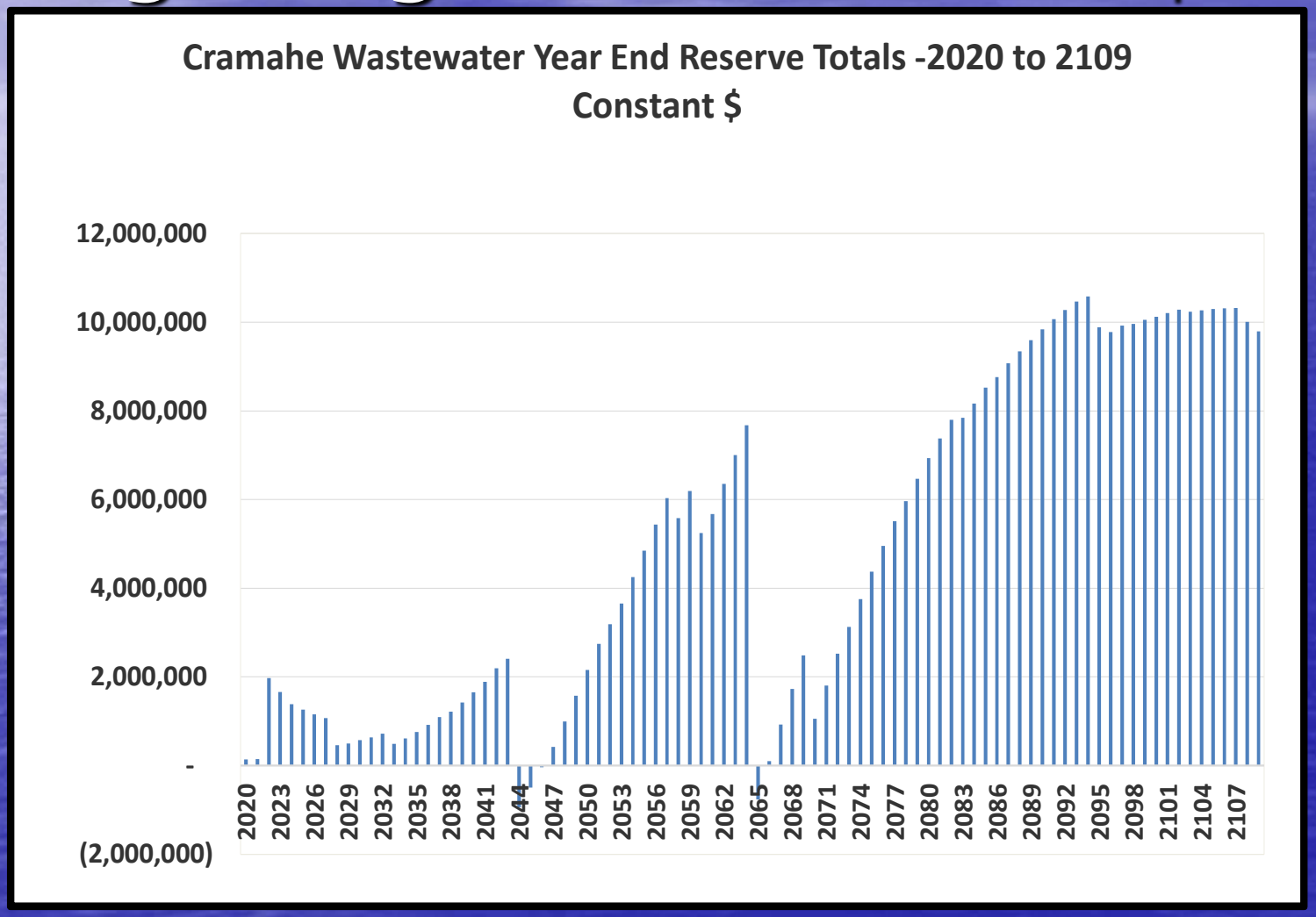
Non User Fee Revenues Needed



Wastewater Reserve Infl $

	2020	2021	2022	2023	2024	2025
Opening Value	232,929	142,746	157,114	2,156,218	1,866,079	1,607,848
Addition (Withdrawl) from (to) Ops	(90,183)	14,367	1,999,104	(290,139)	(258,231)	(99,901)
Interest on Deficit (loan)	-	-	-	-		-
Close Inflated $	142,746	157,114	2,156,218	1,866,079	1,607,848	1,507,947
Close in 2019$	138,589	148,095	1,973,245	1,657,987	1,386,944	1,262,882

Long Range Reserve 2019$



Proposed WW Surcharge Infl $

	2020	2021	2022	2023	2024	2025
Water Bill Surcharge	115.0%	114.3%	115.3%	116.3%	117.3%	118.4%

Wastewater Bills Infl $

User Category in M3 per Month	2020	2021	2022	2023	2024	2025
Couple 8 M3 15mm (.62") Meter	$45	$46	$48	$51	$53	$56
Family 25 M3 15mm (.62") Meter	$85	$88	$93	$98	$104	$109
Grocery 50 M3 25mm (1.0") Meter	$155	$161	$169	$180	$191	$200
Coffee Shop 150 M3 25mm (1.0") Meter	$392	$408	$433	$461	$490	$513
School 200 M3/Month 50mm (2.0") Meter	$550	$572	$606	$644	$684	$716
Restaurant 450 M3 50mm (2.0") Meter	$1,142	$1,190	$1,265	$1,347	$1,432	$1,498

Note: The 2020 wastewater bills are for purposes of comparison only.

Note: Water use by singles, couples, families will vary widely and an individual's bill will depend on personal water use.

WW Annual Bills - 2020

	240 Cubic Metres Per Year (Average)
Utility	**Wastewater Bill**
Brighton	$494
Coburg	$550
Toronto	$598
Norwood	$657
Lakefield	$693
Kawartha Lakes	$709
Bay of Quinte	$804
Cramahe	$883
Flesherton	$936
Campbellford, Hastings, Warkworth	$1,064
Springwater Residential	$1,082
Dundalk	$1,115
Barry's Bay	$1,202
Adjala-Tosorontio	$1,313
Mount Forest	$1,485

Financial Plan

Financial Plans – Reg. 453/07

- Regulation 453/07
  - Prepare a Financial plan before licensing
  - Cover 6 year period minimum
    - Compulsory for water systems
  - Has mandatory components
    - Available to the public free of charge
    - Placed on the internet
    - Advertise report availability
    - Approved by Council – Copy to MMAH
  - Repeat study every 5 years
    - before next license renewal

Financial Plan Content

- 2006 Clean Water Act
  - Financial Plans to include source protection costs
- 2007
  - Lead service replacement costs

Financial Planning Guidelines

- Guidelines published by MOE - Aug 07
  - "Toward Financially Sustainable Drinking – Water and Wastewater Systems".
- Goal - Achieving financial sustainability

Key MOE Fin. Plan Principles

1. Engaging the public in decision making processes/accessible reports
2. An integrated approach to water/wastewater system financial planning
3. Life-cycle approaches to fin. planning/asset management
4. Funds available when assets need to be maintained, rehab. replaced
5. Asset management planning is central
6. Sustainable level of revenue allows systems to be kept in good condition
7. Rate structures can promote financial sustainability and water conserv.
8. Metering, use of rates, preferable to cross-subsidization using prop. taxes.
9. Growth should fund growth.
10. Financial Plans are living documents - lend themselves to improvement.
11. Multi-year plans should be periodically reviewed.

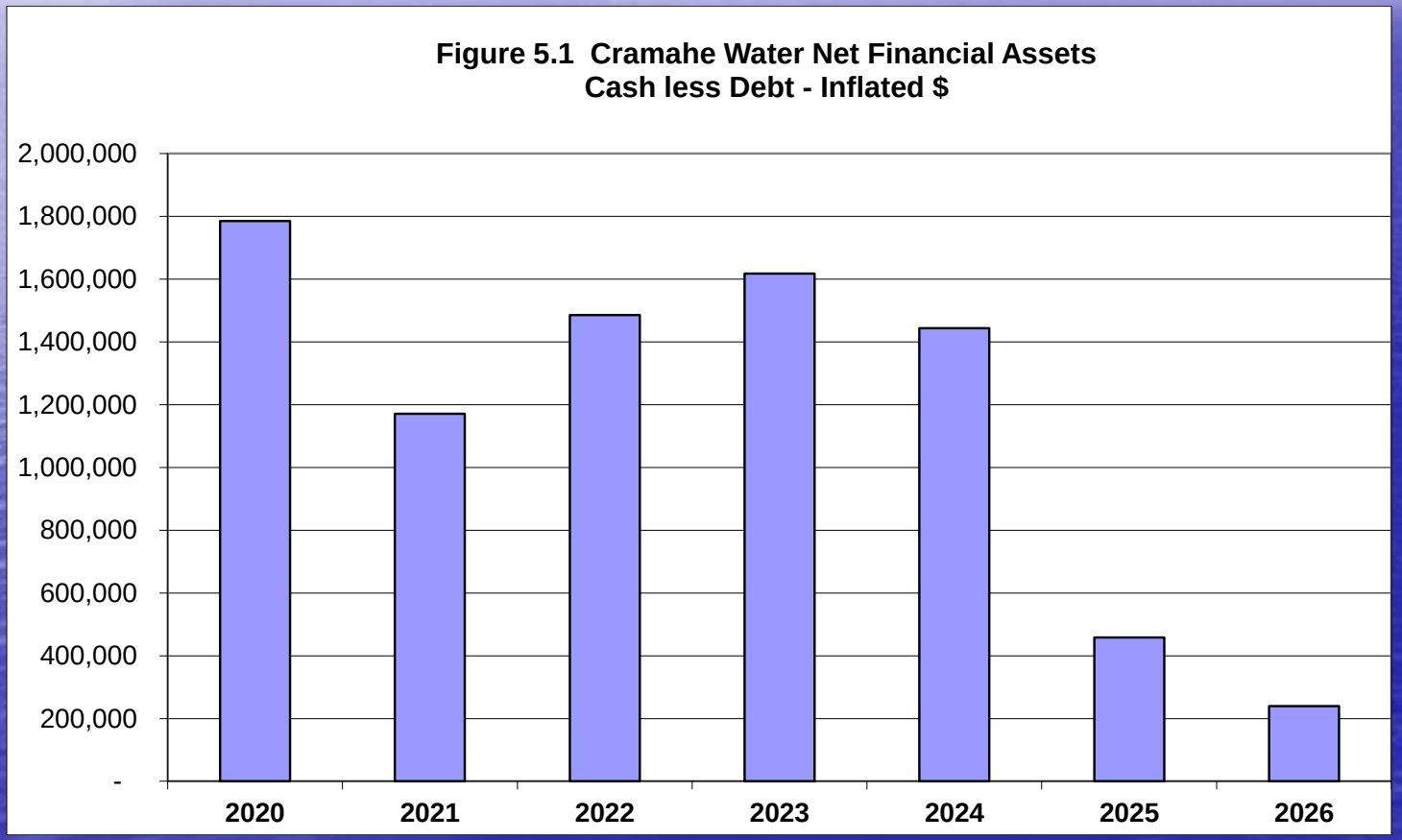
Plan Contents

- Follows Reg. 453/07 and Aug 07 Guidelines
- Consistent with PSAB planning approach
  - Consider amortization to 2026
  - Projects net present value forward to 2026
- Includes statements about:
  - Lead abatement
  - Source water protection

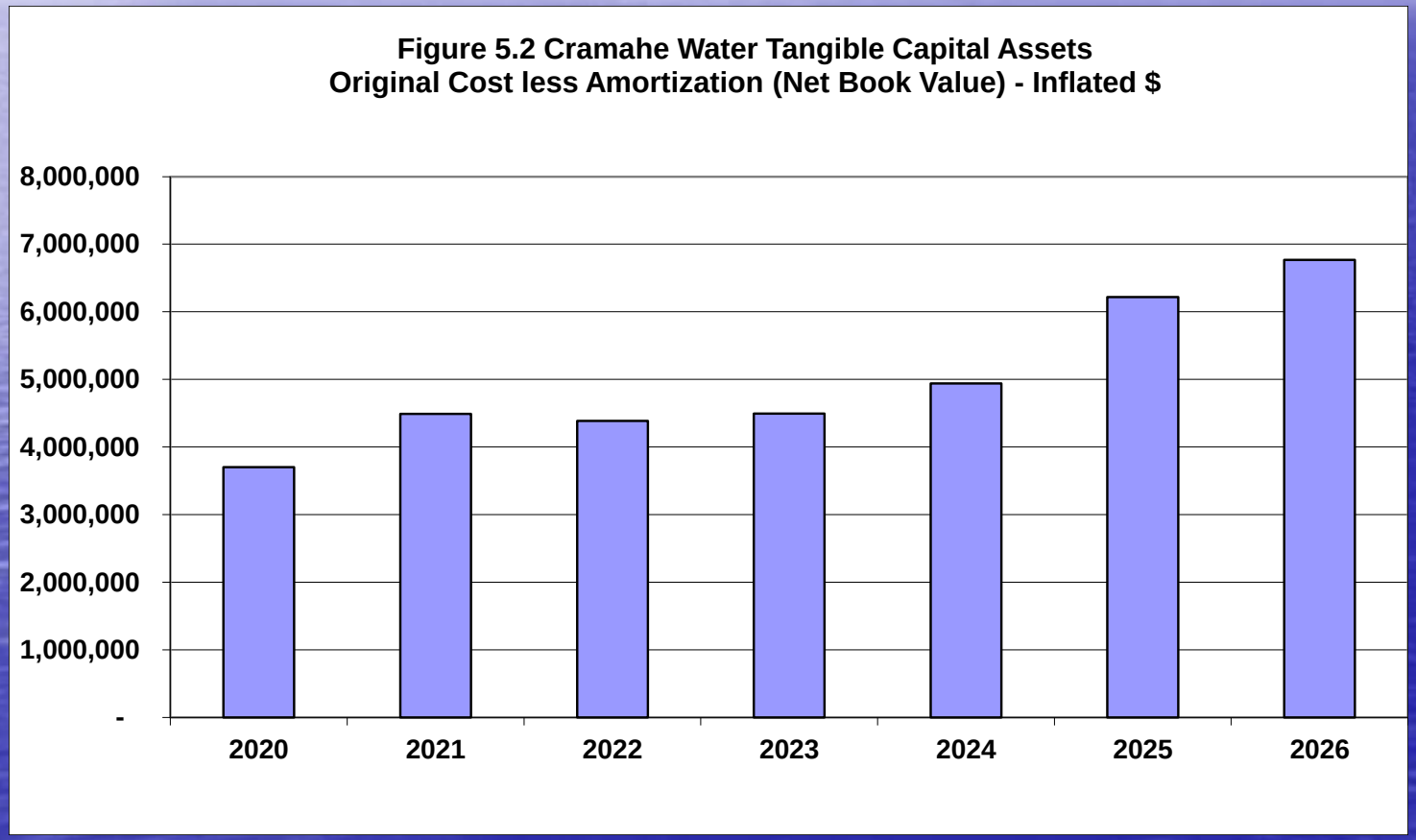
Plan Content

- No lead in system – no plan needed
- Source Protection
  - In 2014, $23,250, and in 2015, an additional $26,661 was spent on the development of a source protection plan. At this stage, no additional funds are projected as needed.
- Government water grants not assumed
  - But the Township can apply

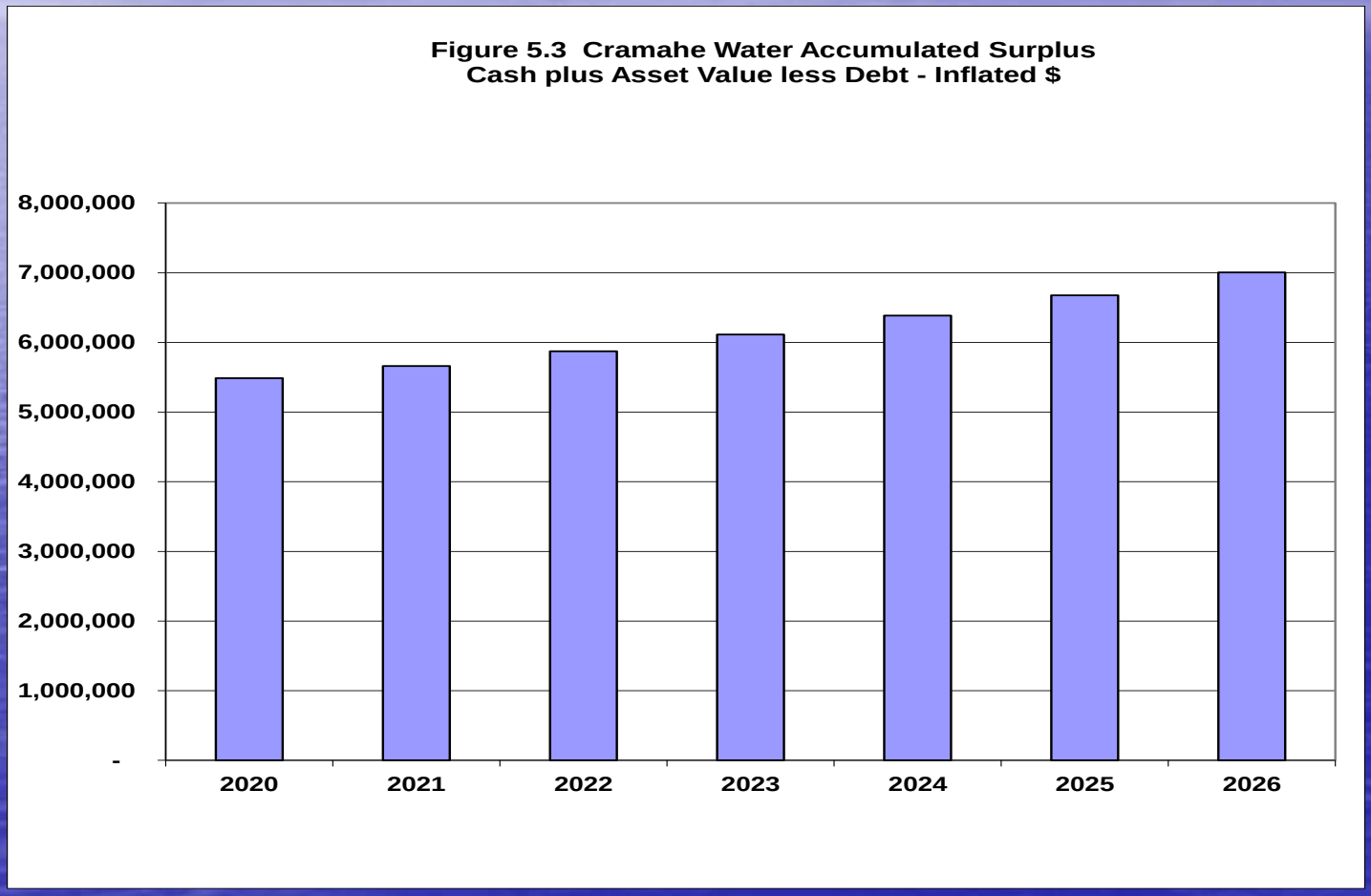
Cash Less Debt-Good Reserve Inflated $



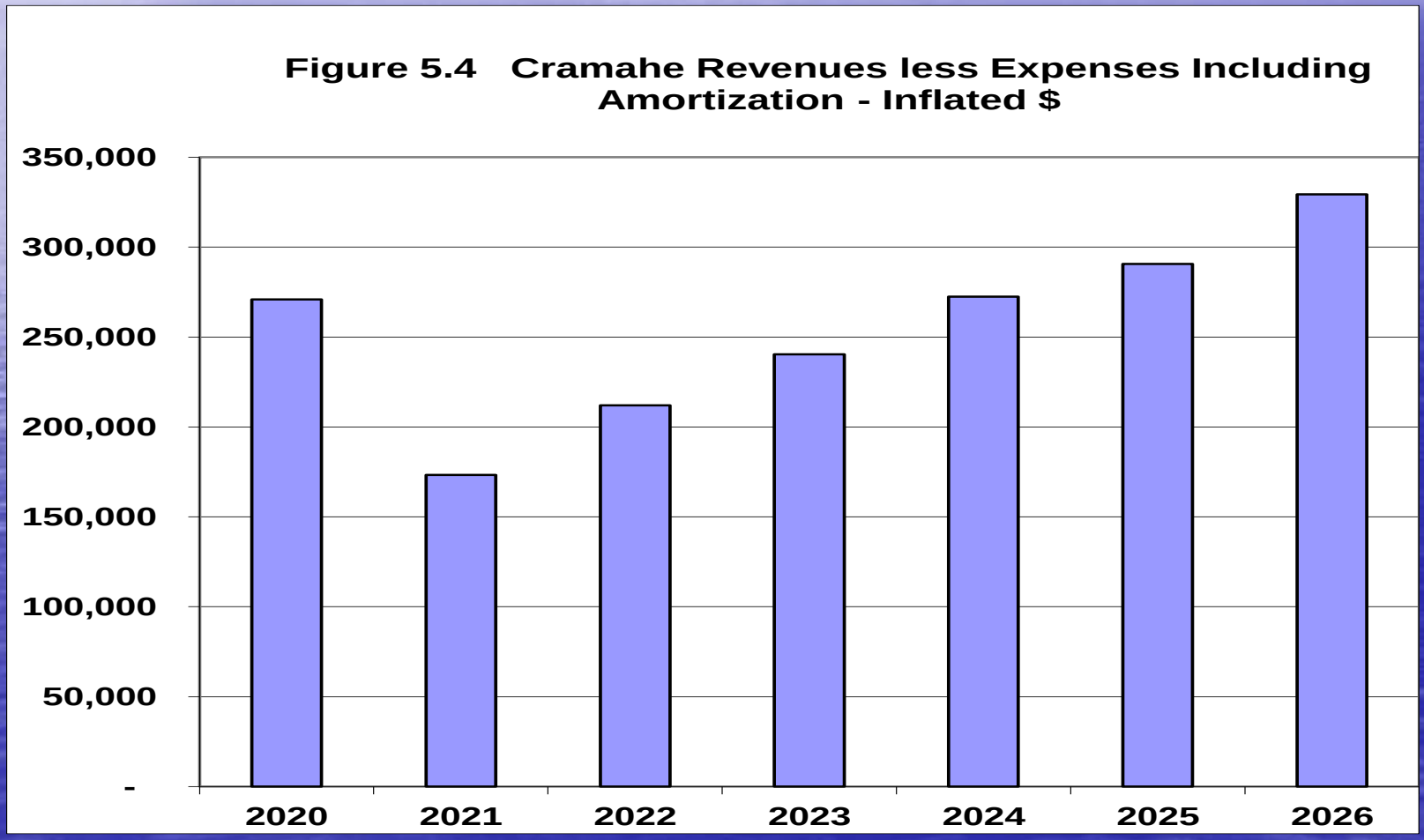
Capital Assets Increasing Infl.$



Cash and Asset Value Less Debt Inflated $



Revenues Less Expenses Incl. Amortization Infl $



Conclusions

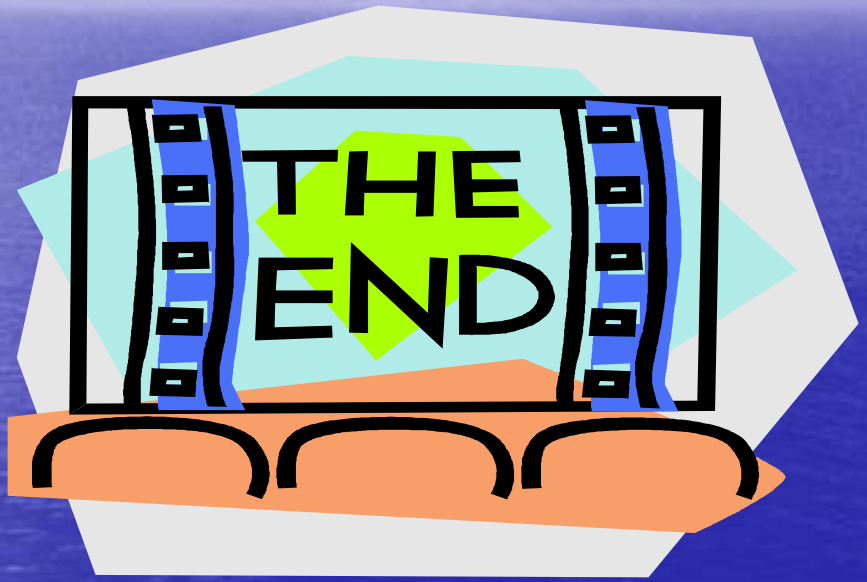
- Good reserves
- Professional operator
- Energetic Staff
- Systems are in good shape

Value of Water

	Amount Used (litres)	What $1.00 will buy Quantity Purchased 2020 Rate	2025 Rate
Drink a 340 ml glass of Cramahe tap water	0.3	1,428	1,113
Drink a 500 ml bottle of Cramahe tap water	0.5	971	757
Buy a 500 ml bottle of water at Tim Hortons	0.5	two thirds bottle	?
Shower 30 minutes	270.0	1.8	1.4
Shower 10 minutes	90.0	5	4
Shower 5 minutes	45.0	11	8
Run dishwasher start to finish - new	25.0	19	15
Run dishwasher start to finish - older	38.0	13	10
Flush an older 15 litre toilet	15.0	32	25
Flush a 6 litre toilet	6.0	81	63
Flush a high efficiency toilet	4.5	108	84
Wash clothes - older top load	175.0	2.8	2.2
Wash clothes - new front load	90.0	5	4
Assume the cost of water in option 2 if use 300 m3 per year			
	Yearly cost	$891	$938
	Cost/m3	$2.06	$2.64
	Cost/litre	$0.00206	$0.00264

Clouds?

- Wastewater Mains/Plant Upgrades
- Climate change
  - Heavy rainfall
  - Storms
  - Higher Temps – Irrigation?
- New Regulations
  - Plastics
  - Pharmaceuticals
  - Wastewater treatment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END

Revenue from Fixed Portion of Water Bill – User of 240M3/Yr in 2020

Port Hope	25
Coburg	33
Cramahe	36
Kawartha Lakes	37
Kingston	43
Peterborough	43
Grafton	46
Bay of Quinte	47
Brighton	49
Campbellford, Hastings, Warkworth	54
Norwood	65
Barry's Bay	75
Lakefield	100