



# Zero Carbon Whitby: Costing Study Results



# Purpose

Zero Carbon Whitby detailed implementation plan:

- Optimized work / investment schedule
- Analysis of incremental costs and savings
- Guidance on Revolving Fund
- Recommended funding approaches and sources
- Detailed budget requirements for 2023, 2024 and 2025



# Summary Results and Learnings

# Key Results

- Reduces emissions by 75% by 2045, with options to reach 100%
- Reduces total energy use by 63% by 2045.
- Requires \$63.7 million investment.
- Returns \$75.3 million savings and avoided costs.

**Return of \$1.66 for every \$1 invested.**



# Key Learnings

- Decarbonization requires ending the use of natural gas, gasoline and diesel, which is also fiscally responsible.
- The Civic Recreation Centre will need to be decarbonized by 2030.
- Improving energy efficiency is key:
  - In 2045, 82% of all energy used will be grid electricity.
  - But the Town will also use 191 TJ less electricity.
  - Efficiency is key to maintaining electricity stability.
- The earlier the work, the greater the savings.

# Costs and Savings



# Financials Over Time

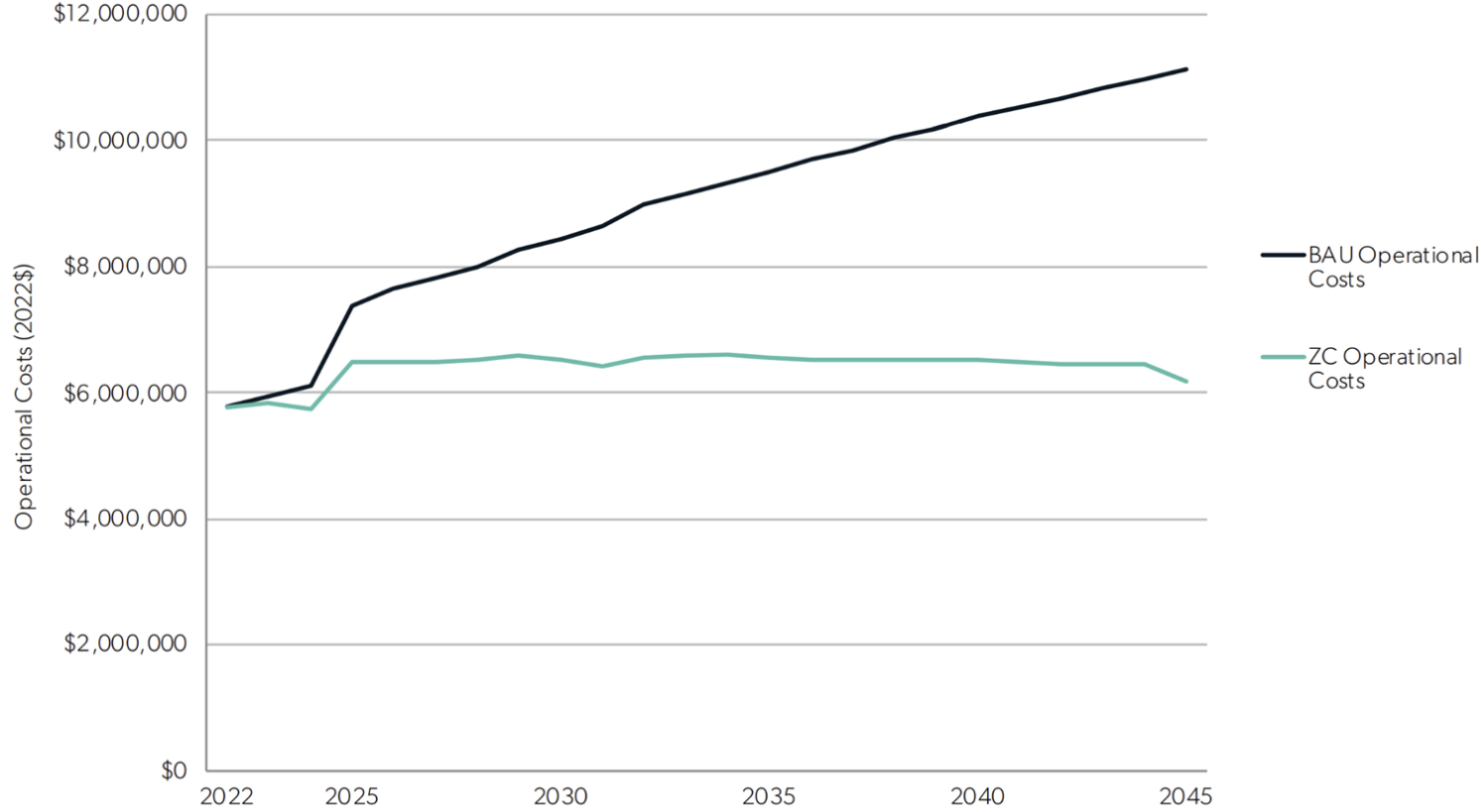
	2022 - 2025	2026 - 2031	2032 - 2045	TOTAL
Incremental Investment Required	\$31,593,000	\$13,832,000	\$18,283,000	\$63,708,000
Operational Budgetary Savings	\$1,379,000	\$13,668,000	0\$	\$15,047,000
Avoided Costs	\$0	\$0	\$60,254,000	\$60,254,000



# Capital Costs



# Operational (Avoided) Costs



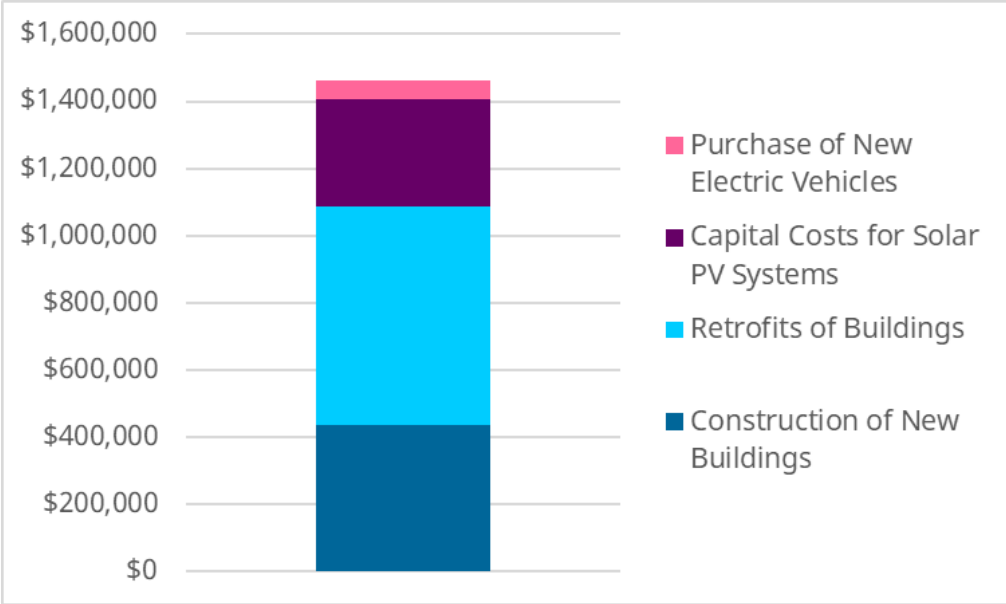
# 2023 Budget

\$435,000 - Begin 2 new buildings  
\$652,000 - Retrofit 19 buildings  
\$319,000 - Solar PV systems  
\$56,000 - Electric vehicles & chargers

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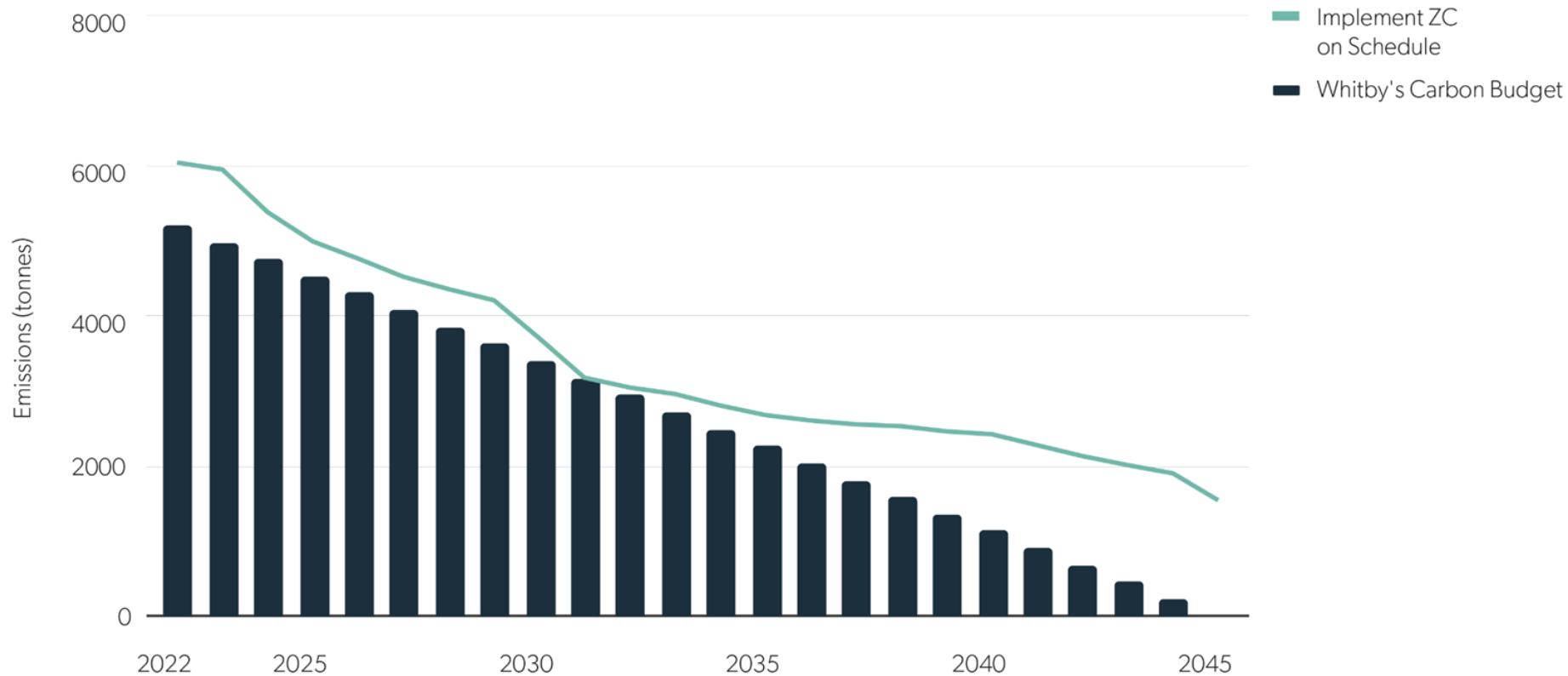
\$1,461,000 - Incremental capital cost

By end of year, savings of \$109,000.



# Residual Emissions

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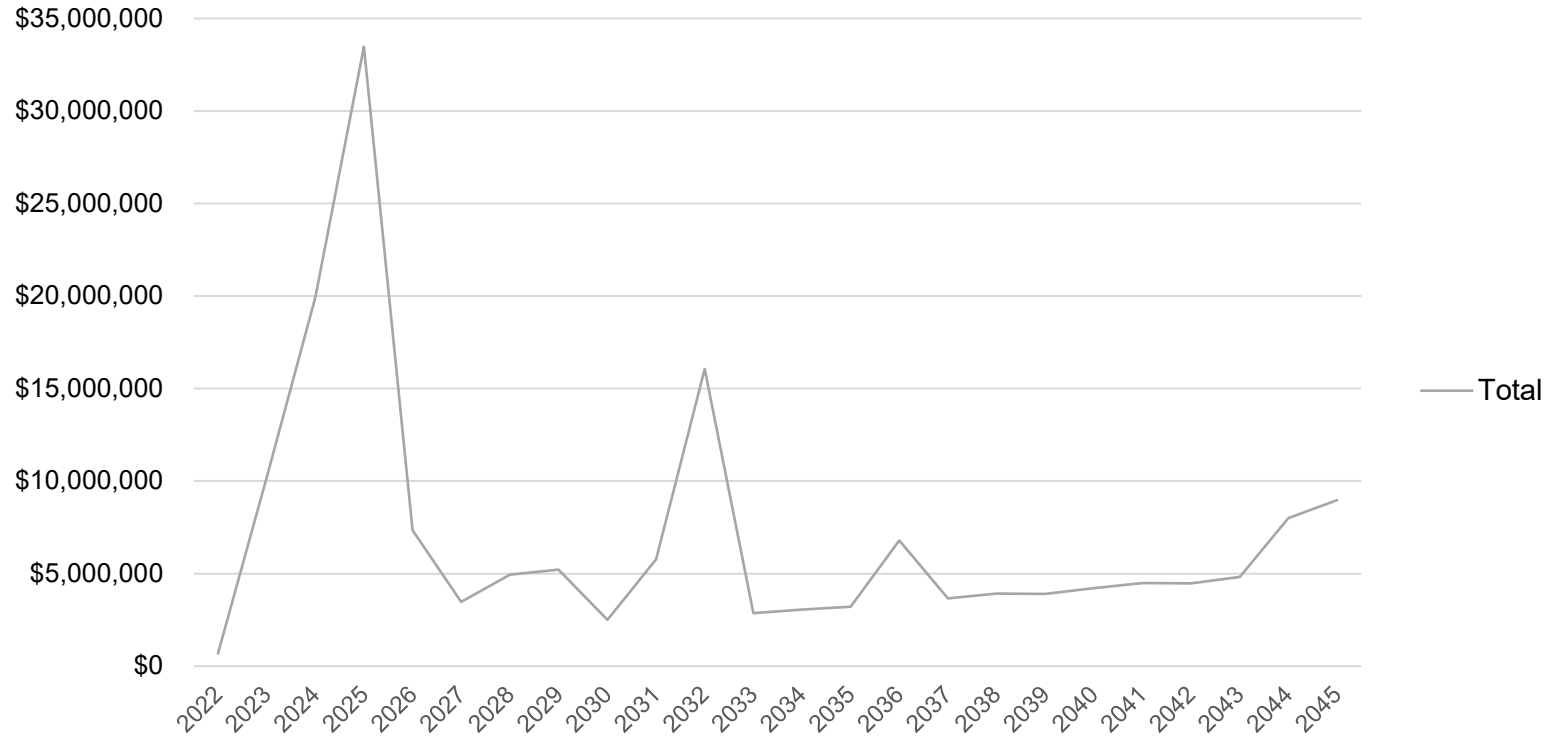


# Revolving Reserve Fund

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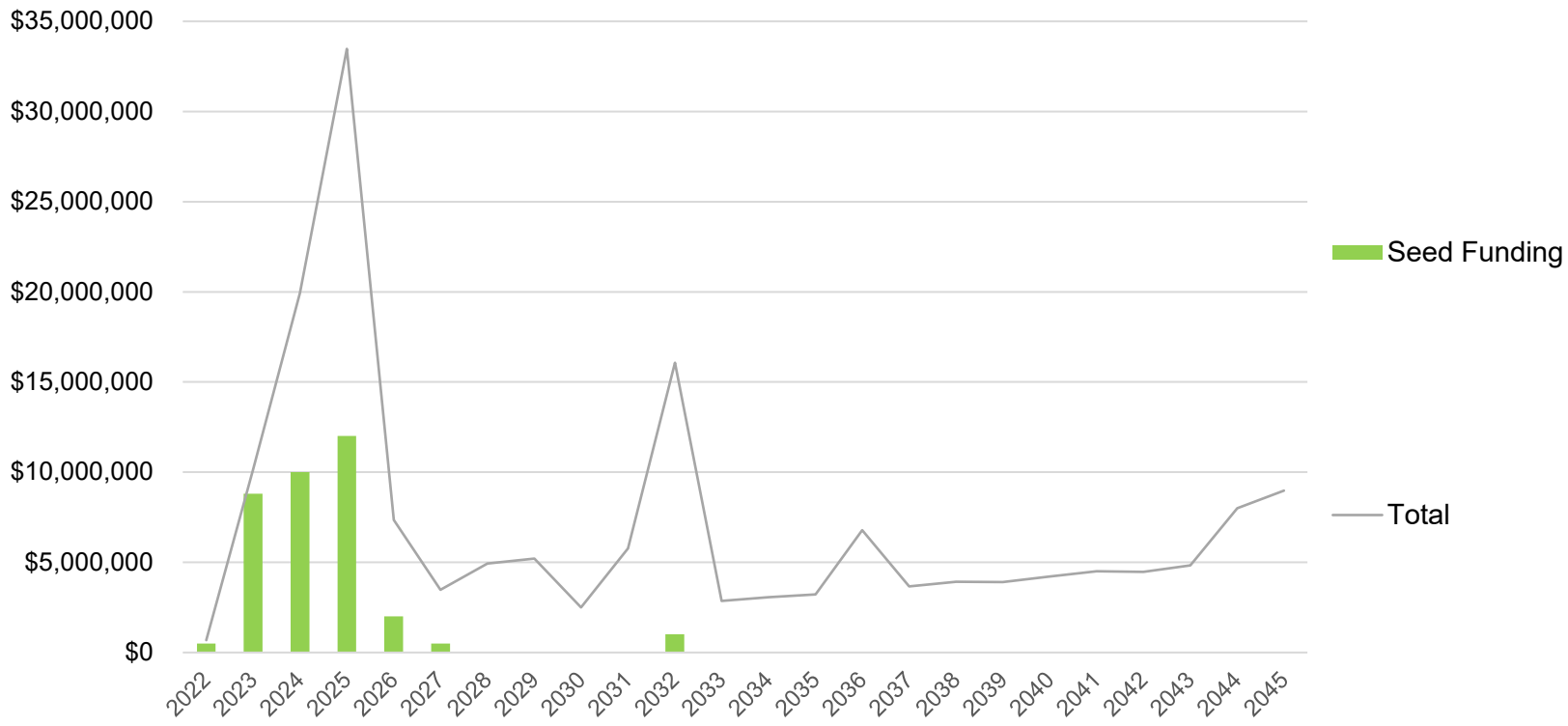
- Seed funding of \$34.8 million plus the energy, carbon tax and selected capital savings from plan can fund 100% of the incremental cost.
- \$31.3 million required by the end of 2025.
- Staff have already applied for \$41,750,000 in funding.

# Revolving Reserve Fund over Time

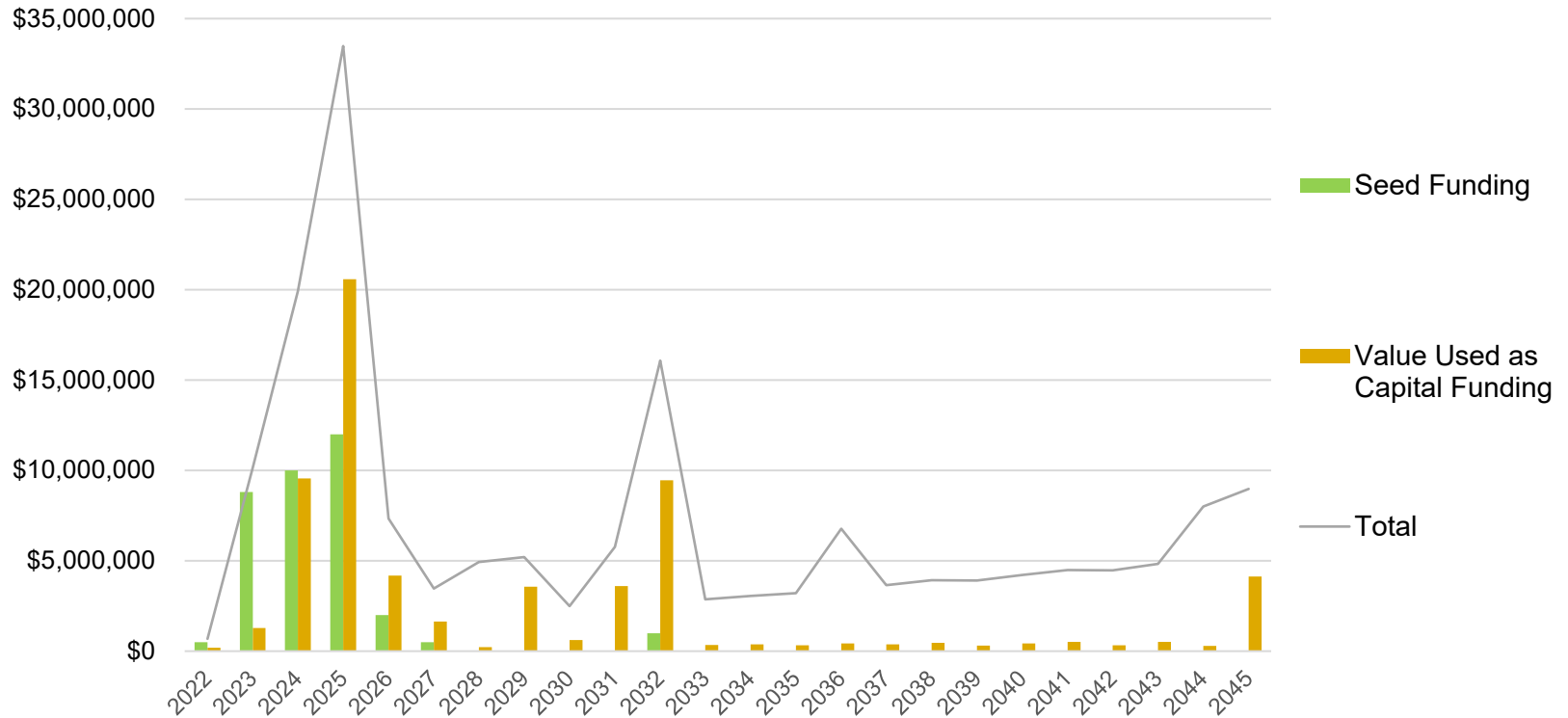




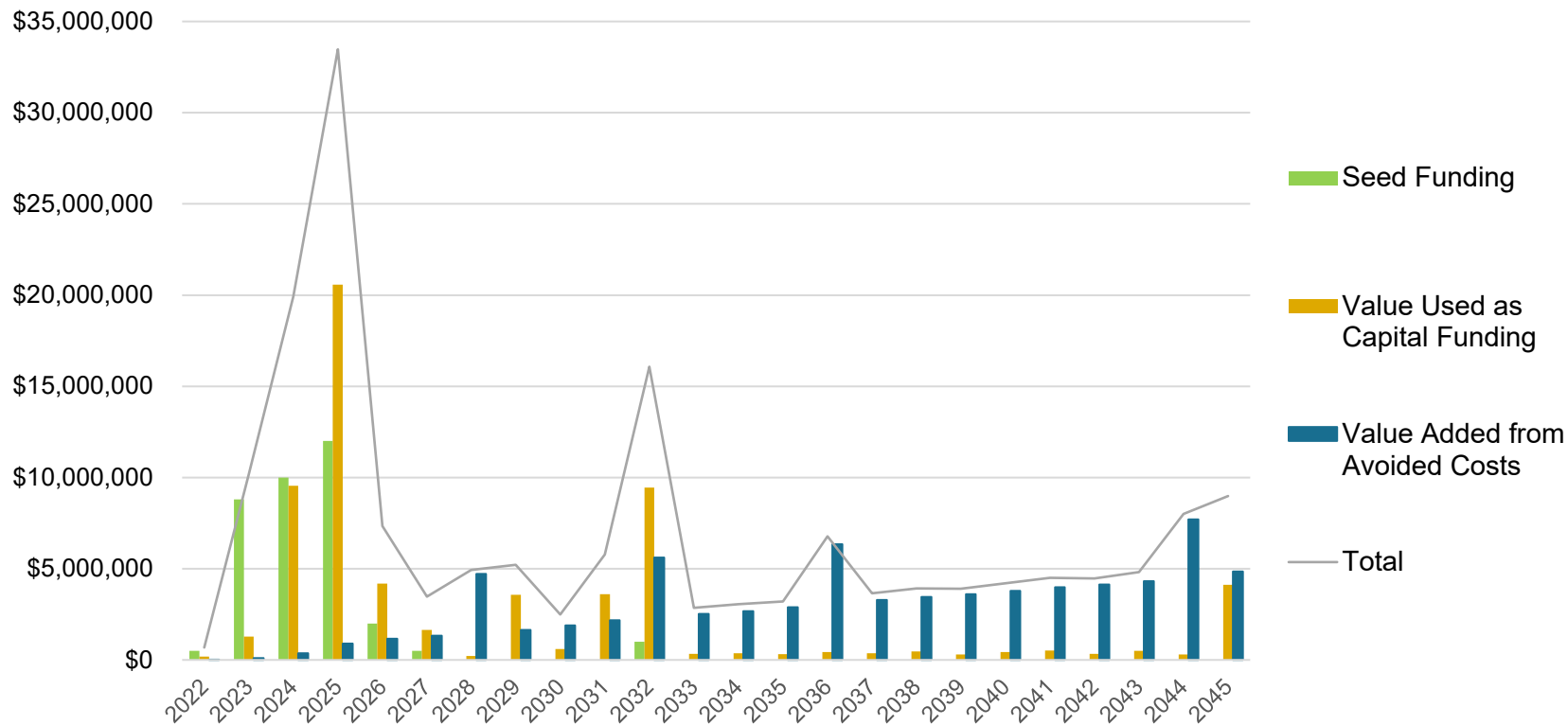
# Revolving Reserve Fund over Time



# Revolving Reserve Fund over Time



# Revolving Reserve Fund over Time



# Financing Alternatives

# Additional Funding

- Green Community Bonds (Town)
- Green Community Bonds (Region)
- Green Corporate Bonds
- Traditional Bank Loans
- Canadian Infrastructure Bank Loans
- Tax Levy

Next Steps

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1. Approve incremental funding for Zero Carbon Whitby for 2023, and get direction to carry out 2023-2025 Zero Carbon Whitby work, including decarbonization of Civic Recreation Centre by 2030.
2. Finalize approach for securing Revolving Reserve Fund seed funding, and approval to proceed.
3. Finalize approach for addressing residual emissions.
4. Establish steering committee and governance structure for the completion of the Plan.

# THANK YOU

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