9 – Developing a financing strategy

MISSISSIPPI
Water and Pollution Control
Operators Association

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Objectives

- Understand the three means of financing asset refurbishments/ replacements (grants, loans, self-financed)
- Understand the implications of each type of financing strategy
- Gain an introduction as to how each type of financing strategy affects current and future rates
- Understand how interest rates affect each financing strategy

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Introduction

- There are four types of financing strategies available to the water/ wastewater system
  - Grants/donations
  - Loans and municipal bonds (debt financing)
  - Self-financed
  - Provision of services – particularly to non-water system entities
- Each of these have very different characteristics and affect the system's finances and rates in different ways

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Grant financing

- From the system's standpoint, grants are the best way to finance system improvements; they do not have to be paid back
- Municipals have the advantage with CDBG funds
- Typically must have an engineer involved to develop feasible plans that the funding agency will approve
- Grants are typically not available for operating expenses
- Applications typically require substantial time to develop and funding is not quickly awarded
  - Typically must plan for projects two to three years in advance
- ARPA notwithstanding (and it may now be abolished), grants are becoming rarer and harder to obtain, particularly for systems in more demographically affluent areas

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Debt financing

- Debt financing can consist of loans (bank, SRF, WFX, etc.) or municipal bonds
- Loans usually have to be paid back with interest, although there are some loan forgiveness programs
- Like grants, loans must typically have an engineer involved to develop feasible plans that the funding agency will approve
- Loans are typically not available for operating expenses, but there are loans that are specifically designed for emergency situations
- Some applications require substantial time to develop
  - Many funding agencies (SRF, WFX, CU) have specialists to aid in application preparation
- Interest rates may vary; could make a large difference in total cost

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Self-financed

- Self-financed financing can come from three different sources
  - Rates (charges for water/wastewater)
  - User fees for system customers (tap fees, late charges, etc.)
  - Fees for non-customer entities (rent of top of tank for cell phone providers)
- User fees for system customers typically are based on a direct cost-recovery basis
- User fees for non-customer entities may be lucrative, but may require additional costs on the part of the system that should be anticipated
- It's important to remember that the system's rates must cover operational expenses as well as any system upgrades that are either self-financed or financed with debt

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Factors to consider for debt financing

- Securing debt financing (or grant financing) means that the system is not forced to save funds for the project
- However, for debt financing, the system will be forced to build debt service (principal plus interest payments) into the rate structure
- Saving before the loan closing can serve to reduce interest costs over the life of the loan
  - Depending on the bond structure, this may or may not be true for municipal bond sales
- Interest rate variations can make a substantial difference in the cost of financing over the life of the loan, particularly for longer term loans

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Determining specific asset financing

- Consider the asset inventory (see the *9 – Financing Strategy* tab)
- Examine each asset class and determine how it will be financed
- Consider categorizing your assets, making a list of funders, etc., in making preparations for determining a financing strategy (see the *9 – Finance Strategy Parameters* tab in spreadsheet)
- For each asset category, determine the likely length of loan that the asset category will require
- In the asset inventory, calculate the anticipated loan payment for each inventory line for assets which will require debt financing
- To provide additional information to the board, calculate the total loan payback on debt-financed assets

See 9 – Finance Strategy Parameters in Comprehensive Asset Management Spreadsheet

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Determining specific asset financing

- For those assets that are self-financed, the system will need to save funds to pay for those assets
  - Divide the future funding needed for the asset by the number of months and number of years before the funding is needed. This will be the amount of funding that you will need from the system's rate structure.
- Prepare a summary table of the types of financing that will be needed, when it will be needed and how much will be needed.
  - This will be of great assistance when determining the financing part of the plan and in determining how rates will need to be adjusted

See 9 – Funding Timing Asset Selection.xlsx spreadsheet

Debt financing basics

- Understanding the basic principals of debt financing can result in savings for the system
- There are three factors that determine the amount of interest paid on a loan
  - Interest rate
  - Length of payback period
  - Additional principal paid on the loan
- The **9 - Loan Calculation Worksheet.xlsx** spreadsheet provides loan calculations and/or comparisons for up to 10 assets
- For this example, finance an asset with a $500,000 cost
- Note the total interest paid and total loan payback for each scenario

See 9 – Loan Calculation Worksheet.xlsx spreadsheet

Debt financing basics

Example	Interest Rate	Loan Period	Additional Principal (monthly)	Total Interest Paid
Asset 1	2.75%	20 years	$0	$150,600
Asset 2	6.00%	20 years	$0	$359,716
Asset 3	6.00%	10 years	$0	$166,123
Asset 4	6.00%	20 years	$2,300	$150,332

- Lower interest rates cause the cost of the loan to be lower
- Shorter loan periods cause the cost of the loan to be lower
- Paying additional principal amounts causes the loan cost to be lower
  - Additional principal doesn't have to be paid every month
  - Additional principal paid early in the life of the loan has a greater effect than if it is paid later in the life of the loan

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Cash flow from the case study

Year	Asset Requirements	Year	Asset Requirements	Year	Asset Requirements
2026	$303,202	2041	$245,692	2056	$207,548
2027	$303,202	2042	$243,623	2057	$207,548
2028	$303,202	2043	$243,623	2058	$204,644
2029	$303,202	2044	$242,833	2059	$204,644
2030	$303,202	2045	$242,594	2060	$204,644
2031	$269,978	2046	$244,255	2061	$205,305
2032	$269,978	2047	$244,255	2062	$205,305
2033	$269,978	2048	$244,255	2063	$205,305
2034	$261,763	2049	$244,255	2064	$205,305
2035	$261,763	2050	$244,255	2065	$205,305
2036	$260,709	2051	$207,548	2066	$252,705
2037	$259,892	2052	$207,548	2067	$252,705
2038	$249,745	2053	$207,548	2068	$252,705
2039	$246,433	2054	$207,548	2069	$252,705
2040	$244,109	2055	$207,548	2070	$252,705

- This table contains the cash flow requirements for the asset management projects
- This does not account for normal operational expenditures
- There is no accounting for any interest on savings

See 9 – Future Cash Flows Required in Comprehensive Asset Management Spreadsheet

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