

# Summary of Utility Finance Course

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[www.wsp.org](http://www.wsp.org) | [www.worldbank.org/water](http://www.worldbank.org/water) | [www.blogs.worldbank.org/water](http://www.blogs.worldbank.org/water)  @WorldBankWater

# Outline

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1. Review the Utility Finance course and the modules presented
2. Review and reinforce the key messages presented in each of the modules

# Learning Objective

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To build on the key messages from the Utility Finance Course and use that information to serve as the foundation for the Water Service Providers Creditworthiness Initiative and helping countries develop creditworthy water service providers

Reinforce the value of the Utility Finance Course in strengthening the capacity of Water Service Providers

# Key Messages

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The Utility Finance Course provides a good foundation to help WSP's become creditworthy

Creditworthy entities require strong and reliable management systems

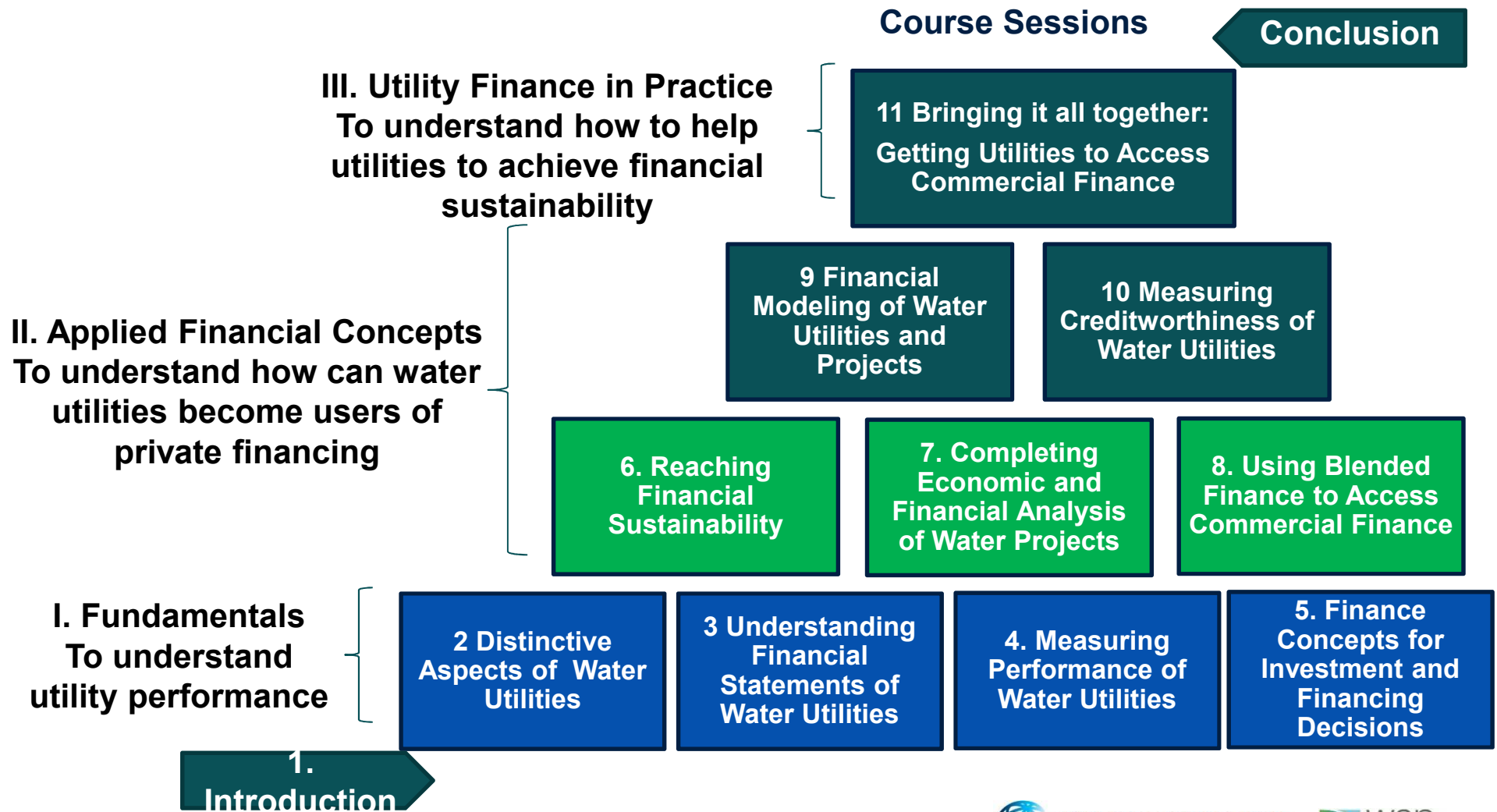
The management of most WSPs would benefit from the Utility Finance Course

# Objectives of the Utility Finance Course

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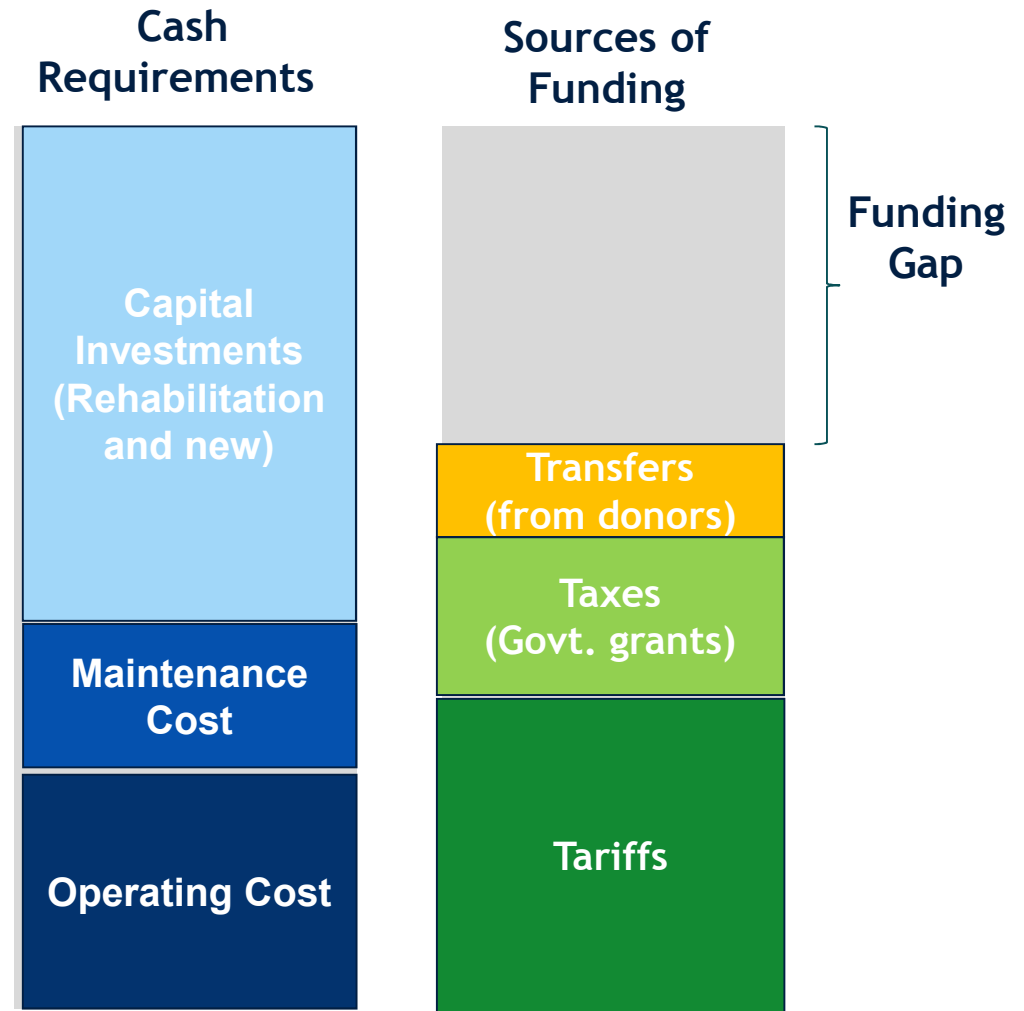
- Diagnose a water utility's performance by analyzing its financial statements and operational indicators
- Understand how to interpret financial models of water utilities
- Understand how tariffs are set, including the cost of service and the revenue requirement
- Understand the key factors that impact water utility creditworthiness
- Identify the key barriers water utilities in developing countries face when accessing commercial finance
- Understand how lenders and investors evaluate financing decisions for water utilities
- Understand the mechanisms available, and how to use them, for helping utilities access commercial finance

# Course Structure



# Tariffs, Taxes and Transfers

- Achieving the WASH SDGs will require substantial capital investments
- Tariffs, Taxes and Transfers will not be enough to meet the SDGs
- Utilities **must access commercial financing** and increase cash generated from operations to achieve objectives



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## 2. Distinctive Aspect of Water and Sanitation Utilities



# Key Messages

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Understand distinctive aspects of water utilities that make them different from other businesses and how that impacts their ability to access commercial finance

Understand special characteristics of utilities operating in developing countries that impact financial sustainability – and the importance of being financially sustainable

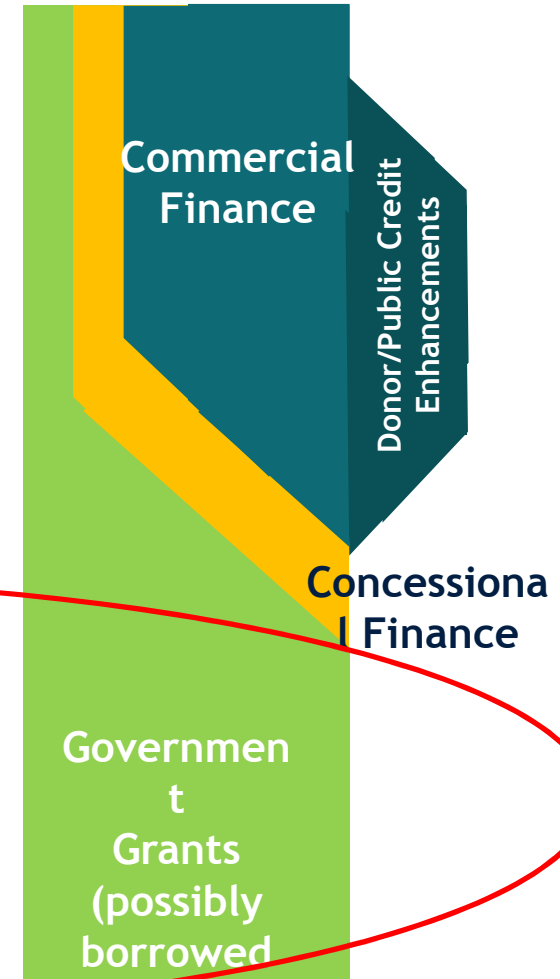
# Characteristics of Water Utilities that Impact Their Ability to Access Commercial Finance

| Assets are not suitable to back a loan   | Mismatch between costs and revenues  | Limited flexibility to adjust costs   | Uncertainty about revenue stream  |
|--|--|---|---|
| <ul style="list-style-type: none"><li>• Most utility assets are underground</li><li>• Little information about condition of assets</li></ul> | <ul style="list-style-type: none"><li>• Assets are long lived</li><li>• Assets constructed to meet future peak demand</li><li>• Fixed costs vs. volumetric tariffs</li></ul> | <ul style="list-style-type: none"><li>• Most costs are designed into the system</li></ul> | <ul style="list-style-type: none"><li>• Natural monopolies, so are subject to economic regulation</li><li>• Willingness to pay or charge is often low</li></ul> |

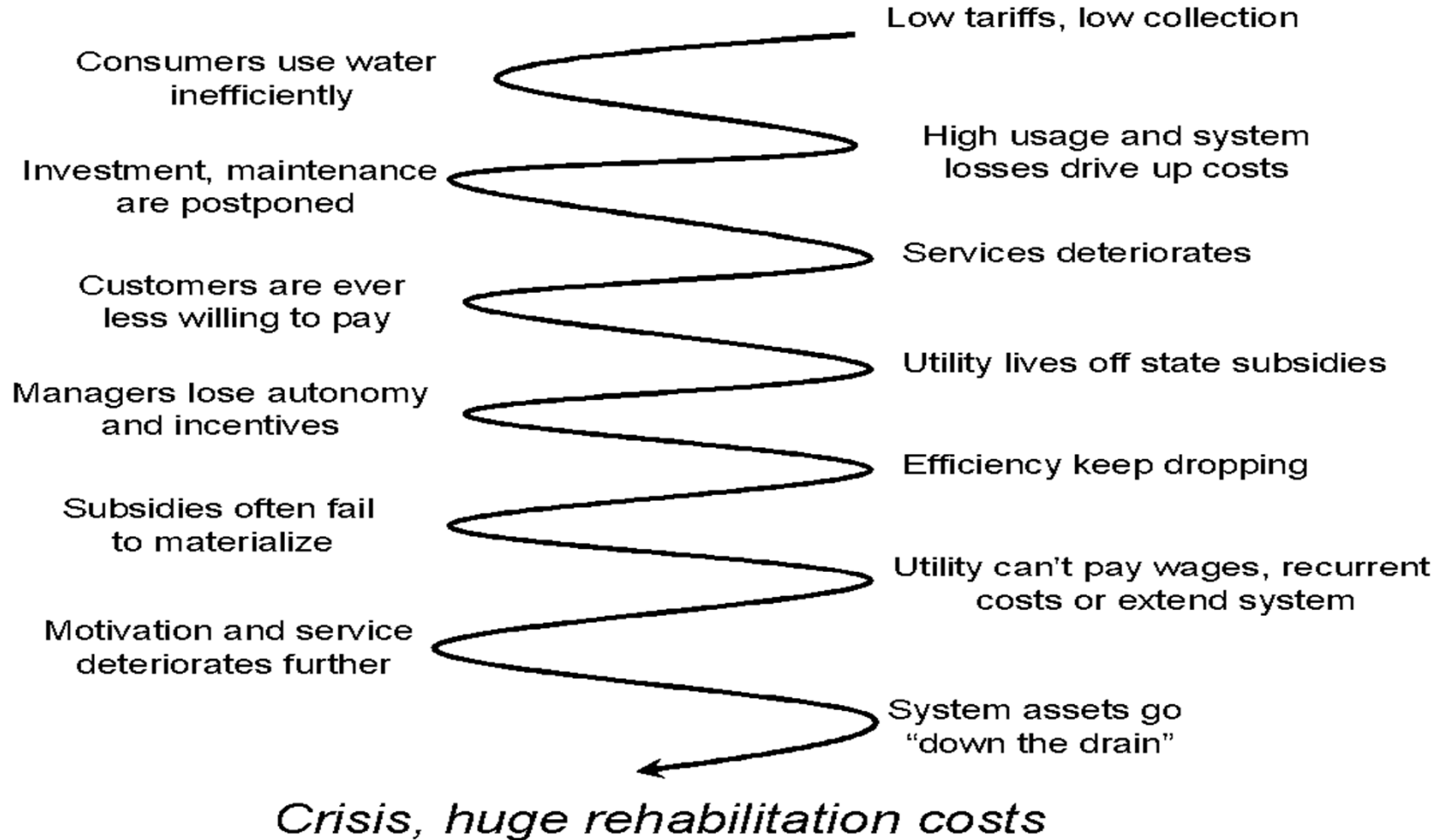
But, water utilities are highly capital intensive, so they may need to access commercial financing

# A Typical Utility in a Developing Country is Low in the Ladder of Financial Sustainability

|   |  |
|---|--|
| <b>Fully Creditworthy</b>                     | Financial sustainable + Country Conditions and Developed Financial Markets |
| <b>Becoming Creditworthy</b>                  | Financial Sustainable + Credit History                                     |
| <b>Financially Sustainable</b>                | Revenue + other Reliable Resources Cover full Cost of Service              |
| <b>Operating Cost Recovery</b>                | Profitable in Any Given Year But Not Sustainable in Long Term              |
| <b>Pay-As-You-Go Recovery of Cash Outlays</b> | Capital subsidies essential to keep utility afloat                         |
| <b>Unviable Loss Making Utilities</b>         | Capital & Operational Subsidies to keep utility afloat                     |



# Financial Sustainability: the Slippery Slope!



# Cash Flow Cycle Importance

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- Understanding the cash flow cycle helps to focus on financial sustainability
- The cash flow cycle for water and sanitation utilities links the financial statements to a water utility's operations
- Understanding how cash moves through a water utility helps connect different aspects of a utility's financial and operational performance
- Understanding the utility's operations and its internally generated cash flow leads to the need to attract financing from external – commercial - sources

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# 3. Understanding Financial Statements of Water and Sanitation Utilities

# Financial Statements Help Users to ...

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- Understand the utility's financial condition/position
- Understand how the utility has performed financially in the past, including how much cash flow it generated
- Predict how the utility will perform financially in the future, including future cash flows
- Identify existing obligations and commitments that must be covered by utility's future cash flows
- Identify existing risks that will impact the utility's future financial performance, including its cash flows

# Basic Components of a Financial Report

## Management's Commentary/ Representation

**Management's representation** expresses its responsibilities regarding for the accounting system and controls and accounting estimates and judgements used. Management discusses past performance and future outlook. Management may also discuss significant events, effects of inflation, off-balance sheet financing, and changes in accounting policies

## Auditor's Opinion

Independent review of an utility's financial statements.

- Unqualified opinion: that financial statements **present a fair and accurate picture of the company and its compliance with accounting/ financial reporting standards**
- Qualified opinion: financial statements make exemptions to accounting principles
- Adverse opinion: financial statements are not presented fairly
- Disclaimer of opinion: there are not enough information to provide an opinion

The auditor's opinion could draw reader's attention to some financial situation that may endanger the continuity of the business, or makes some numbers unreliable

## Financial Statements

Provides financial information on the utility. Financial statements presented in an audited report include: balance sheet, income statement, cash flow statement, statement of comprehensive income, and statement of changes in equity

## Notes to Financial Statements

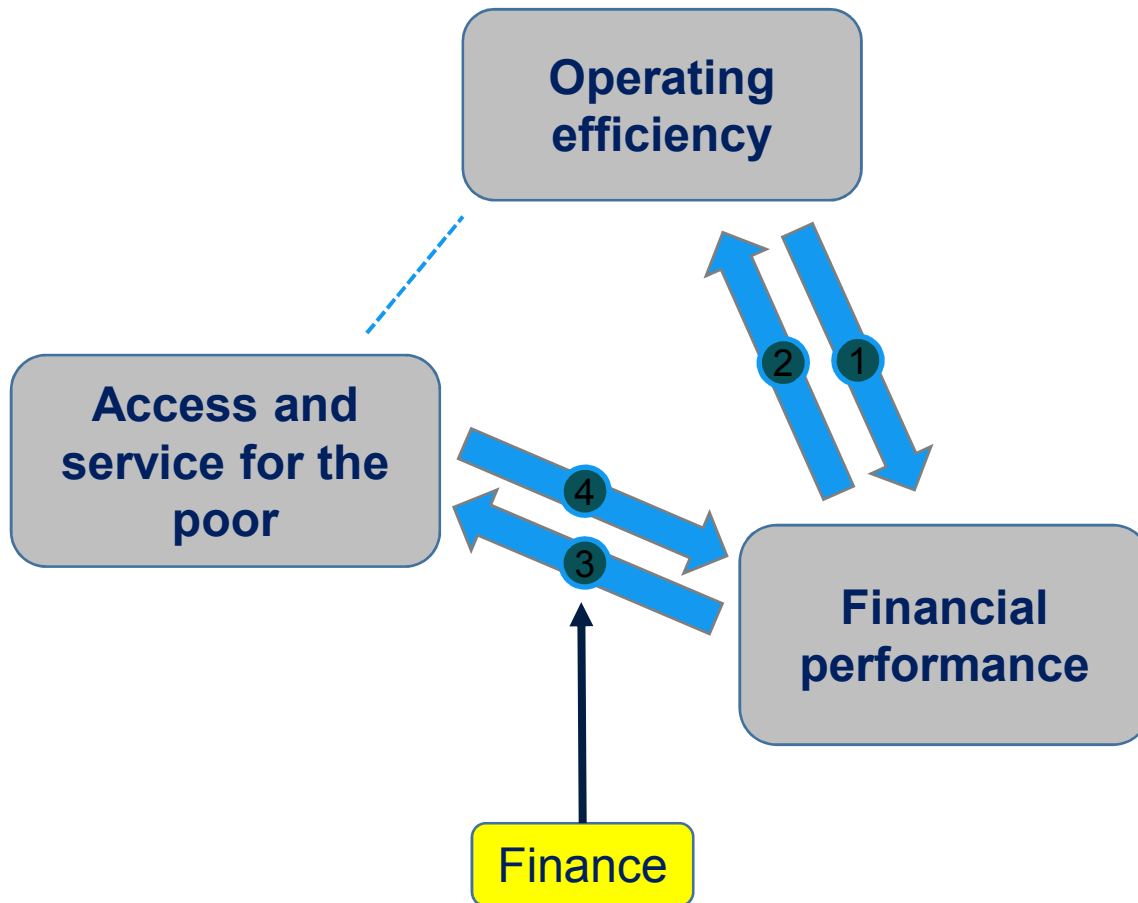
Provides a background on the utility. Provides information about accounting policies, relevant assumptions and estimates used to prepare financial statements. Provides additional information about the financial statements and the main accounts



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## 4. Measuring Performance of Water and Sanitation Utilities

# Virtuous Circle of Performance



**Financial performance and operating efficiency linked:**

- 1) O&M costs controlled
- 2) Make operational improvements

**Financial performance and service to poor linked:**

- 3) Generate cash or access finance to pay for network expansion, bulk water supply, etc.
- 4) Revenues increase

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# 5. Finance Concepts for Investment Decisions

# Learning Objective

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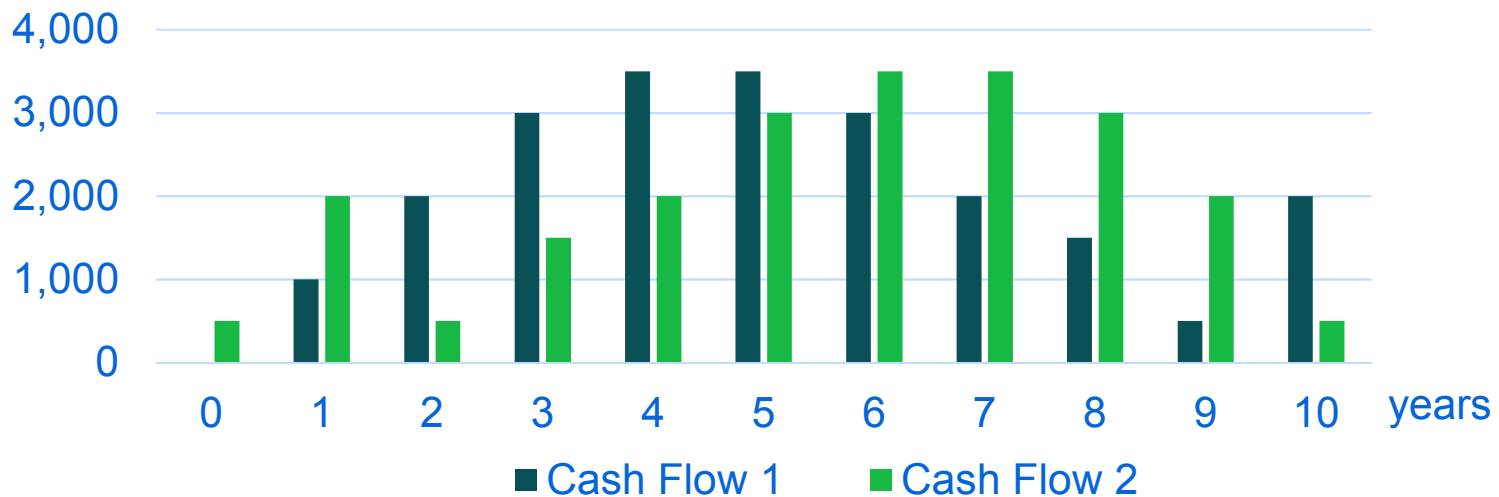
Understand basic concepts of finance needed to make investment and financing decisions

If World Bank staff understands how investors decide whether or not to invest in a project...

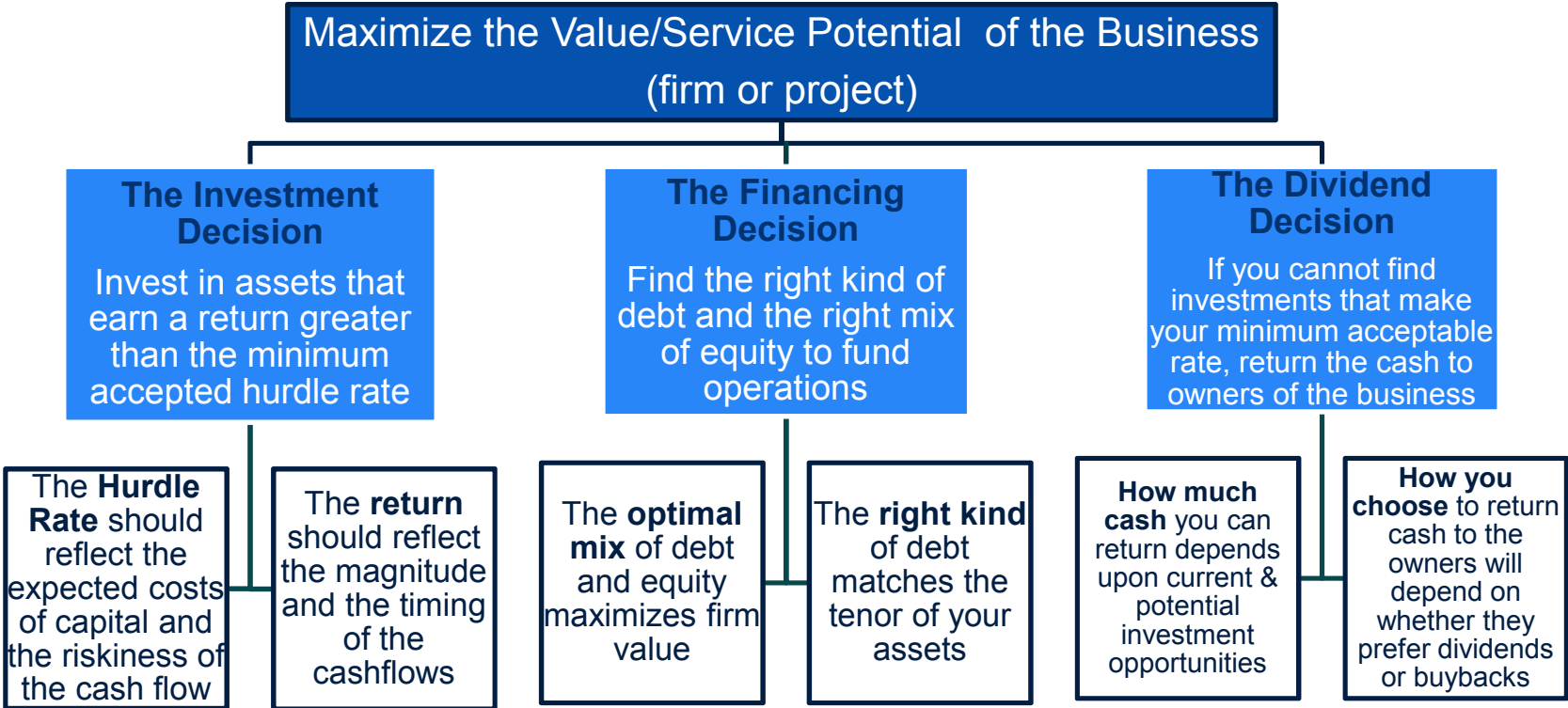
- ... then World Bank staff will be able to help water utilities to identify necessary changes in their operations and performance...
- ... to access private investment and to understand which projects can attract private investments

# Future Cash Flows are All That Matter for Investment Decisions

- Forget sunk costs (cash already spent)
- What matters are future cash flow amounts, timing and risk



# How a Utility Makes Investment and Financing Decisions

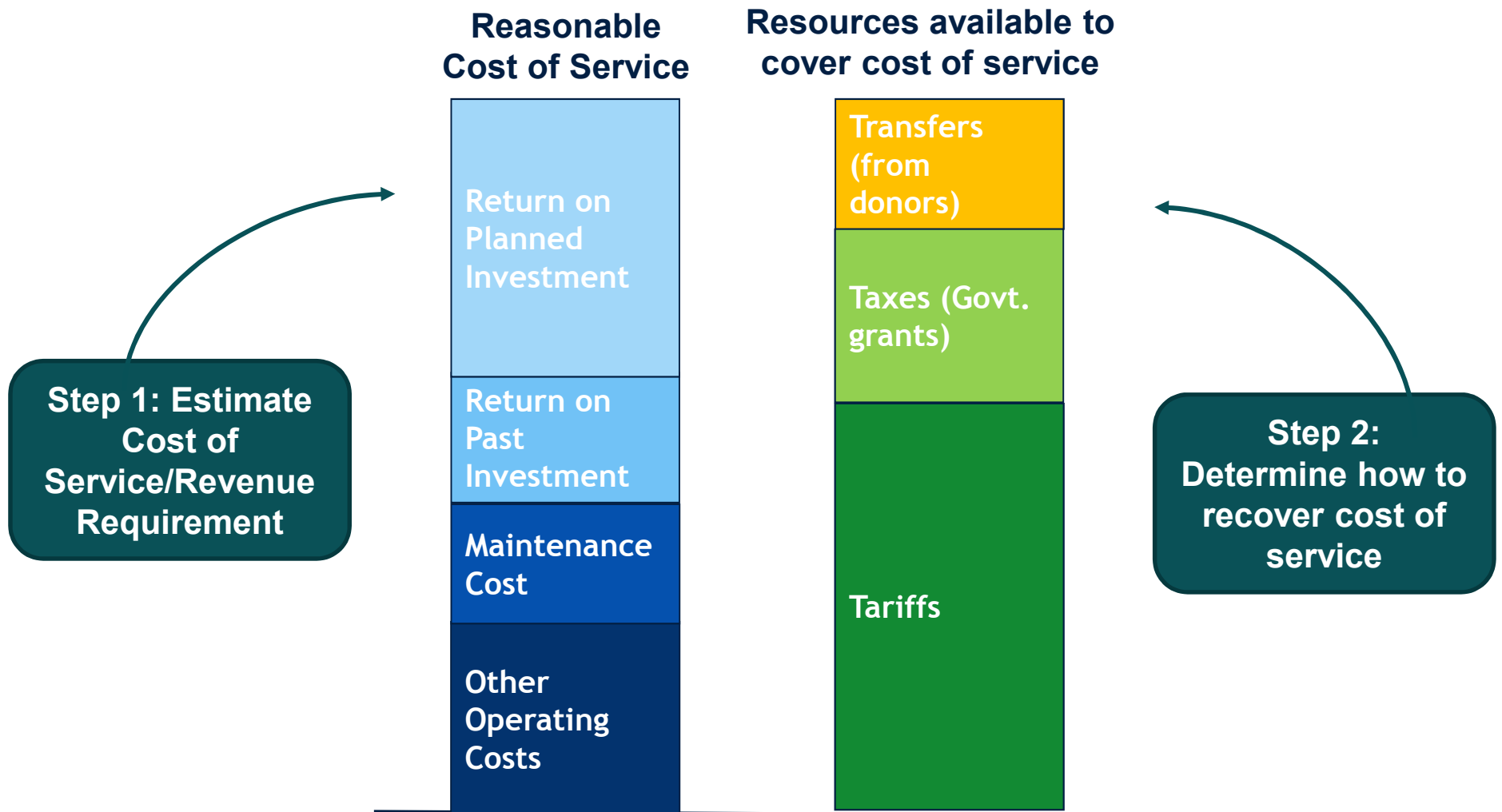


Source : Aswath Damodaran

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## 6. Reaching Financial Sustainability

# Approach to Achieving Financial Sustainability





# Resources Available to Meet Revenue Requirement

| Type                 | Advantages  | Disadvantages  | Uses  |
|----------------------|---|--|---|
| Transfers            | <ul style="list-style-type: none"> <li>- Free money!</li> <li>- World Bank loans only provide resources to the extent of concessionality</li> </ul>   | <ul style="list-style-type: none"> <li>- Very limited quantities</li> </ul>  | <ul style="list-style-type: none"> <li>- Targeted OBA</li> <li>- Financing CAPEX</li> <li>- Occasionally for OPEX</li> </ul>  |
| Taxes (Govt. Grants) | <ul style="list-style-type: none"> <li>- Additional to what consumers can pay</li> <li>- Can be targeted to social needs</li> <li>- Source of finance</li> </ul>  | <ul style="list-style-type: none"> <li>- Often unreliable</li> <li>- Paid by taxpayers (who also are poor)</li> </ul>                | <ul style="list-style-type: none"> <li>- Targeted subsidies</li> <li>- Funding CAPEX</li> <li>- Operating subsidies</li> <li>- Bail outs</li> </ul>                           |
| Tariffs              | <ul style="list-style-type: none"> <li>- Grows automatically as service expands → essentially unlimited</li> <li>- Reflects Value of service</li> <li>- Promotes accountability + customer orientation</li> </ul> | <ul style="list-style-type: none"> <li>- Raising tariffs can reduce affordability</li> <li>- Raising tariffs is unpopular</li> </ul> | <ul style="list-style-type: none"> <li>- Covering CAPEX</li> <li>- Providing return on capital/debt service</li> <li>- Generating surplus for investment in assets</li> </ul> |

# Tariffs are the Foundation of Financial Sustainability, but Must Serve Multiple Objectives

| Objective                          | Typical Response  |
|------------------------------------|---|
| <b>Cost Recovery</b>               | Average cost tariff<br>[Revenue Requirement/Sales]        |
| <b>Affordability</b>               | Household bill < Ability to pay                           |
| <b>Efficiency in Use</b>           | Tariff = Long Run Marginal Cost (LRMC)                    |
| <b>Financial Risk Minimization</b> | Revenue structure matches cost structure                  |
| <b>Administrative Simplicity</b>   | Few categories, easy to measure inputs to billing formula |

# Approaches to Financial Sustainability

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- ✓ **Step “Zero”**: Introducing & Operationalizing the Regulatory Accounting Guidelines, and the KPIs; Determining the baseline of required O&M (O&M Audit); Procedures & Regulatory Calendar (proposed duration: 1 year)
- ✓ **Step 1**: Towards cash flow equilibrium & recovering of total O&M costs (explicit & implicit, variable and fixed); tariff adjustments based upon the **unit cost methodology** (proposed duration up to 4 years)
- ✓ **Step 2**: Towards full cost recovery; tariff adjustments based upon the **discounted cash flow methodology**

# Unit Cost Approach

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- The approach analyzes the actual costs per unit of water sold. In determining future unit costs assumptions are made concerning efficiency improvement targets based upon professional judgment and comparative analysis. A principle feature of this is the short-term time horizon, i.e. three to five years.
- The method takes each cost element and divides it by the volume of water that is sold and paid for.
- Advantages of this method are:
  - ✓ Can be easily monitored
  - ✓ Can ensure positive cash flows
  - ✓ Simplicity and easily disseminated to the general public
  - ✓ Easy to monitor performance against time bound targets
  - ✓ Promotes improved efficiency

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# 7. Economic and Financial Analysis of Water Projects

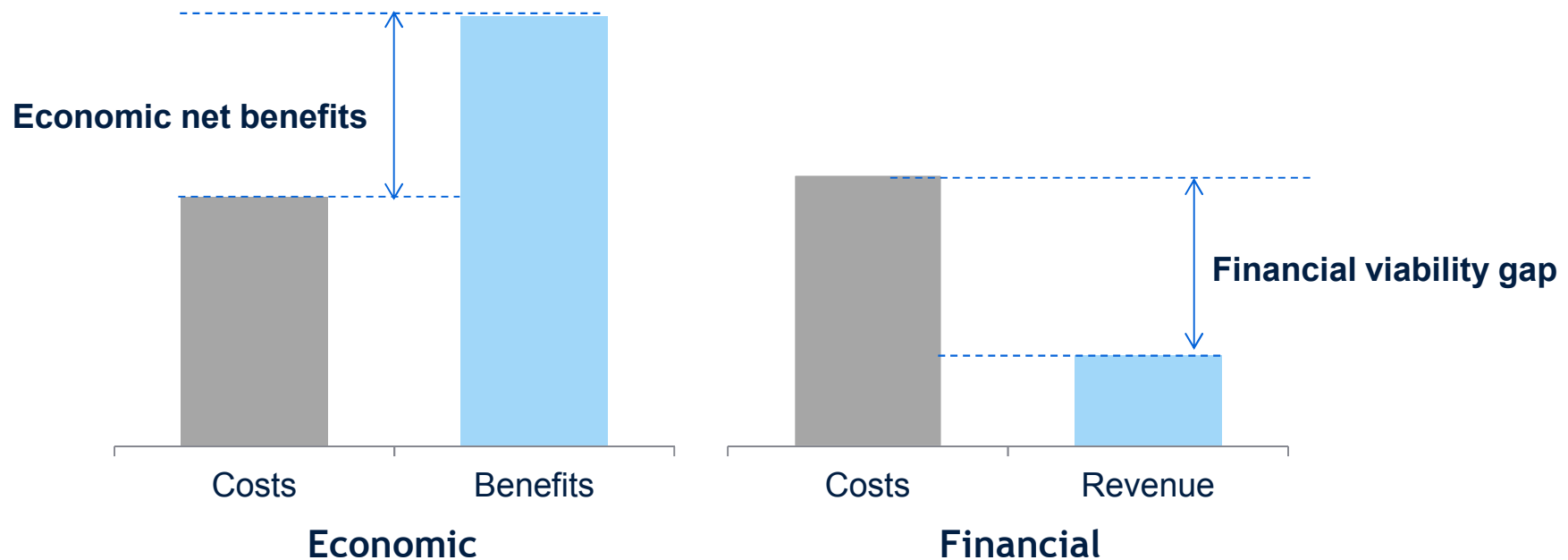
# How to provide Government Support to make Financially Viable Projects Bankable

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- Stretching out repayment obligations through long term sources. Hence increasing bankability.
- Providing the project with loans that have lower costs than commercial loans. Hence decreasing WACC and increasing financial viability
- Facilitate access to funding when the project can't raise capital because of capital market failures.
- Provide guarantees when project is financially feasible but risk is too high

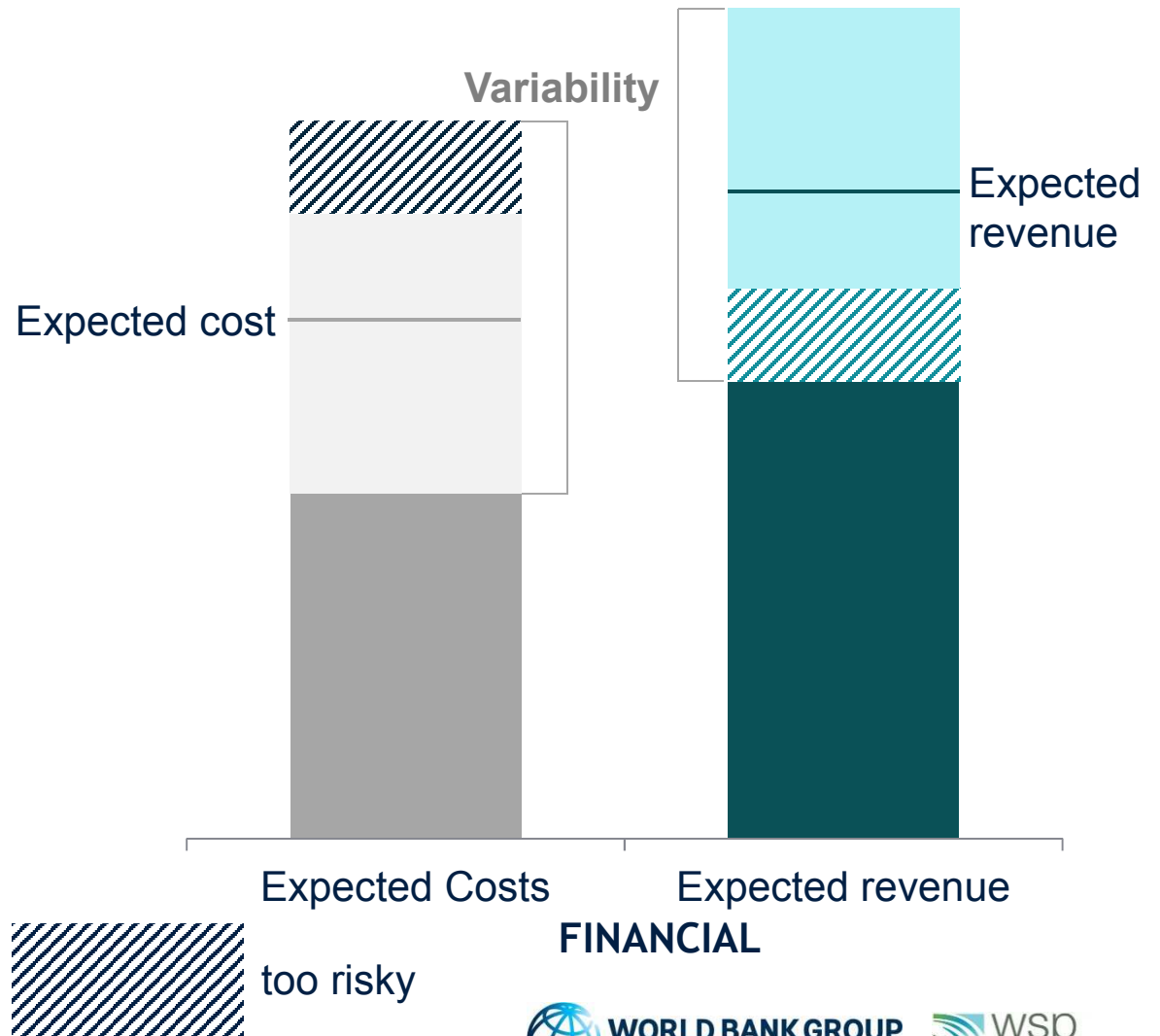
# Provide VGF when Project is Economically but not Financially Feasible

- If a project is economically viable, but not financially viable it is reasonable for government to provide **subsidies to cover the viability gap**.
  - This is true if viability gap is lower or equal to the economic net benefits
- Two main reasons why an economically viable project may not be financially viable.
  - Infrastructure projects can create public benefits that are not reflected in the price consumers are willing to pay for the service (Economic benefits)
  - User fees can be deliberately set below consumers' willingness to pay



# Provide guarantees when project is financially feasible but risk is too high

- Projects can be financially viable given an expected return, but have risks that private companies are not willing to take. These projects are not bankable
- The risks can be associated with higher costs or lower revenue that would not allow for investor to obtain required return
- Government can provide guarantees to ensure more certain revenue streams and therefore reduce perceived risk and required return

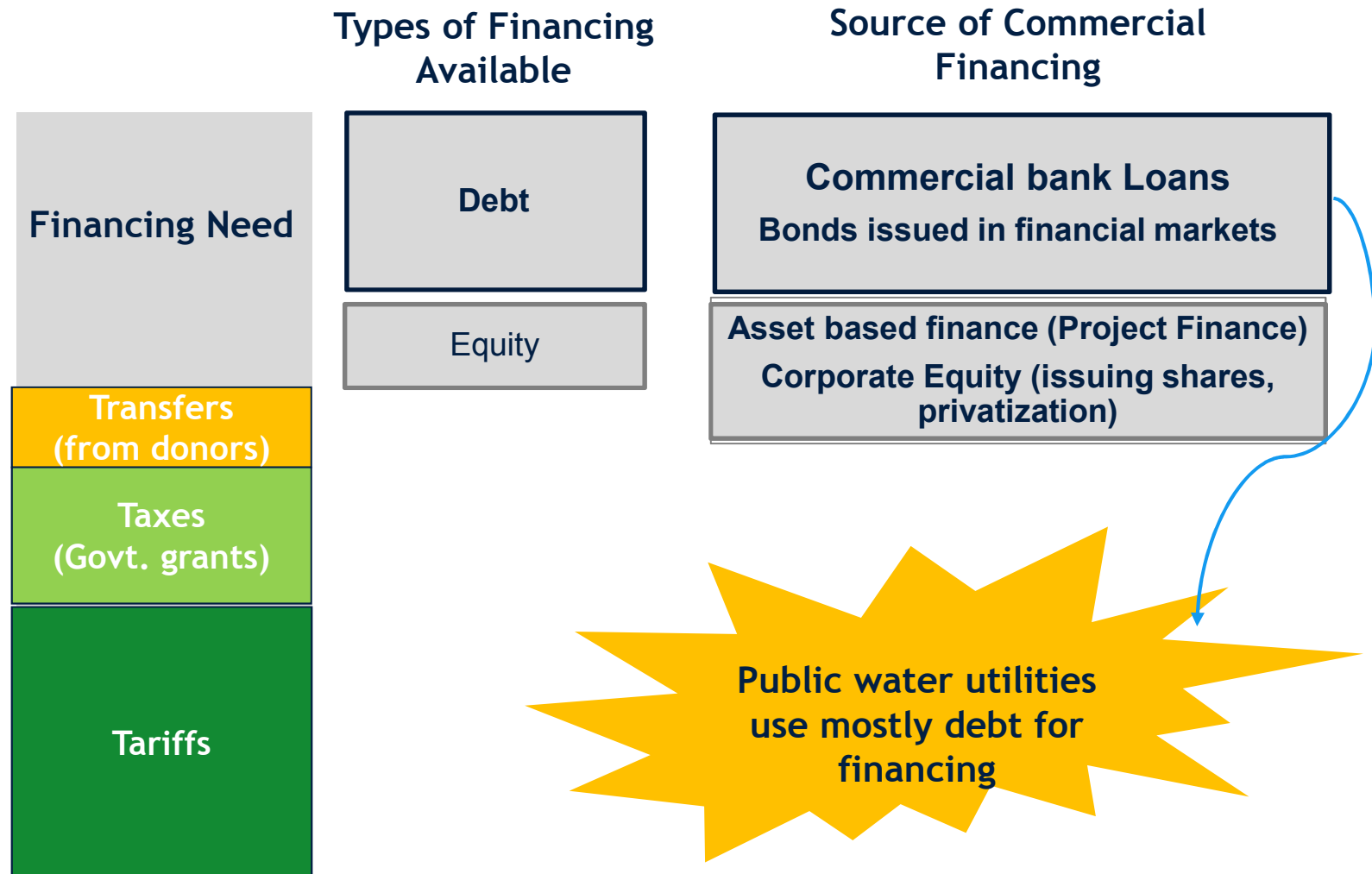




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## 8. Using Blended Finance to Access Commercial Finance

# What are the Sources of Commercial Financing



# Comparing Sources of Finance

|                  | Concessional | Commercial banks | Financial Markets | Private equity investors |
|------------------|--------------|------------------|-------------------|--------------------------|
| Availability     | Low          | High             | High              | Medium                   |
| Flexibility      | Low          | High             | High              | High                     |
| Speed            | Low          | High             | Medium            | High                     |
| Opportunity Cost | High         | Low              | Low               | High                     |
| Financial Cost   | Low          | High             | Medium            | High                     |

Play an important role, but their resources are insufficient

Have enough resources, but many WSS utilities/projects cannot access them due to low credit ratings

Work for utilities/projects in developed markets, but not so much for utilities in developing markets.

Higher risk and higher cost of capital.

# Considerations for Accessing Private Capital

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## **Demand (for capital) side**

- What is the objective?
- What is being financed?
- What type of resources are needed? Short? Long? Domestic? Euro/Dollar?

## **Supply (of capital) side**

- What is the legislative/regulatory framework?
- Who are the targeted investors? What do they need in terms of RoR? What is their level of sophistication and appetite for risk?
- What comfort would they need to invest (for example, intercepts of government transfers)?

# Reasons for Creditworthy Water Utilities' Limited Access to Private Capital

|   |   |
|---|---|
| Limited knowledge of the sector                 | Unfamiliar with water projects and credit analysis of water utilities   |
| Long payback period                             | Willing to finance projects for 7 to 10 years, but water projects can extend up to 30 years                     |
| Sub-sovereign risk                              | Water utilities owned by subnational governments do not offer enough guarantees for private investors           |
| Foreign exchange risk                           | Risk of mismatch between revenues denominated in local currency and obligations denominated in foreign currency |
| Overestimate risks involved in serving the poor | Incorrectly view the poor as having a low willingness and ability to pay for WSS services                       |
| Limited collateral                              | Water assets provide only limited collateral to lenders because they have little liquidation value              |



# How Blended Finance Works

- Blended finance structures financial instruments to catalyze private capital, either by reducing risks or increasing returns when the risks are high for the private sector.

|            |   |
|------------|---|
| Debt       | Money lent for repayment in later date, usually with an interest <ul style="list-style-type: none"><li>- Money market rate debt, when rates and terms are determined on capital market prices and tenors</li><li>- Flexible (Concessional) Debt with favorable terms or rates for the borrower relative to market pricing</li></ul> |
| Grants     | A financial award with no expected payment or compensation  |
| Guarantees | Protection from Various Sources of Risk intended against capital losses for investors   |
| Equity     |   |

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# 9. Financial Modeling of Water Utilities and Projects

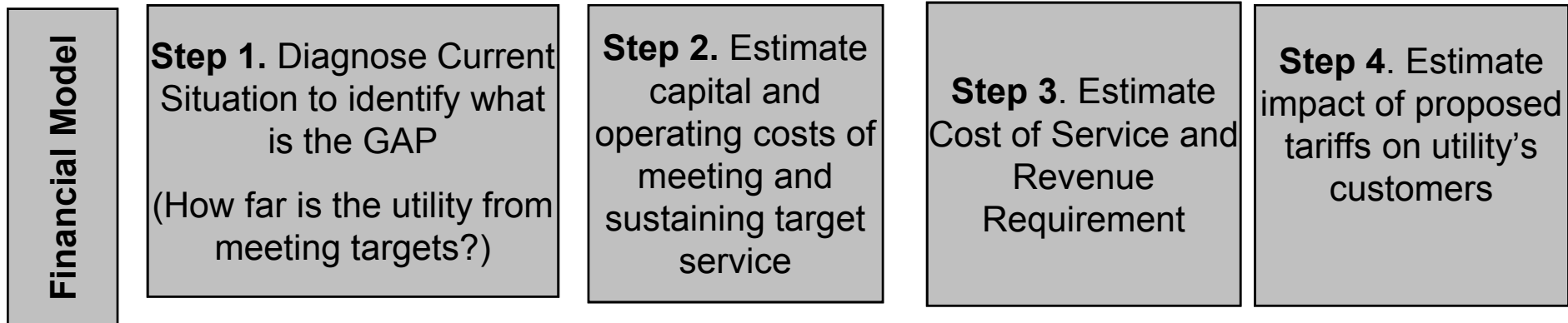
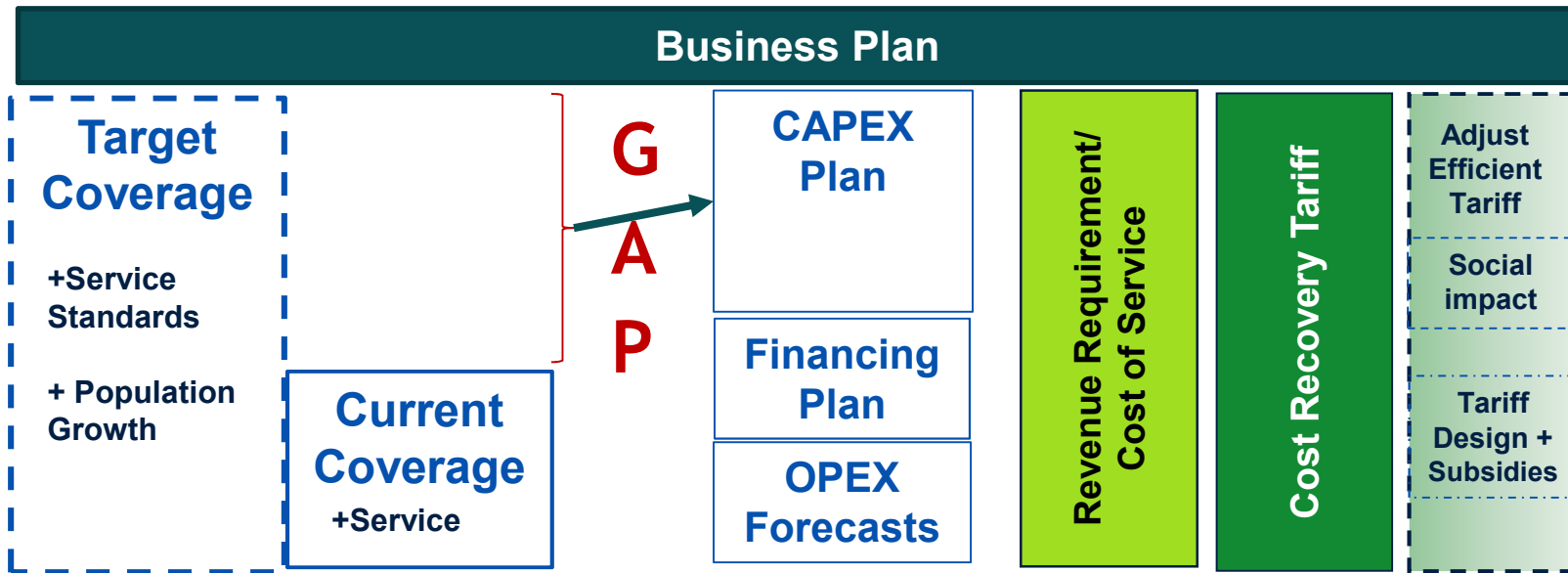
# Objectives of Financial Models for Water Utilities

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- Financial models are used to project the cash flow of a utility to make investment decisions
- What can you do with a financial model?
  - Analyze a utility's current and projected financial situation
  - Diagnose operating performance
  - Identify main cost drivers
  - Verifying viability of current and proposed tariffs



# Financial Models are a Useful Tool to Plan towards Financial Sustainability

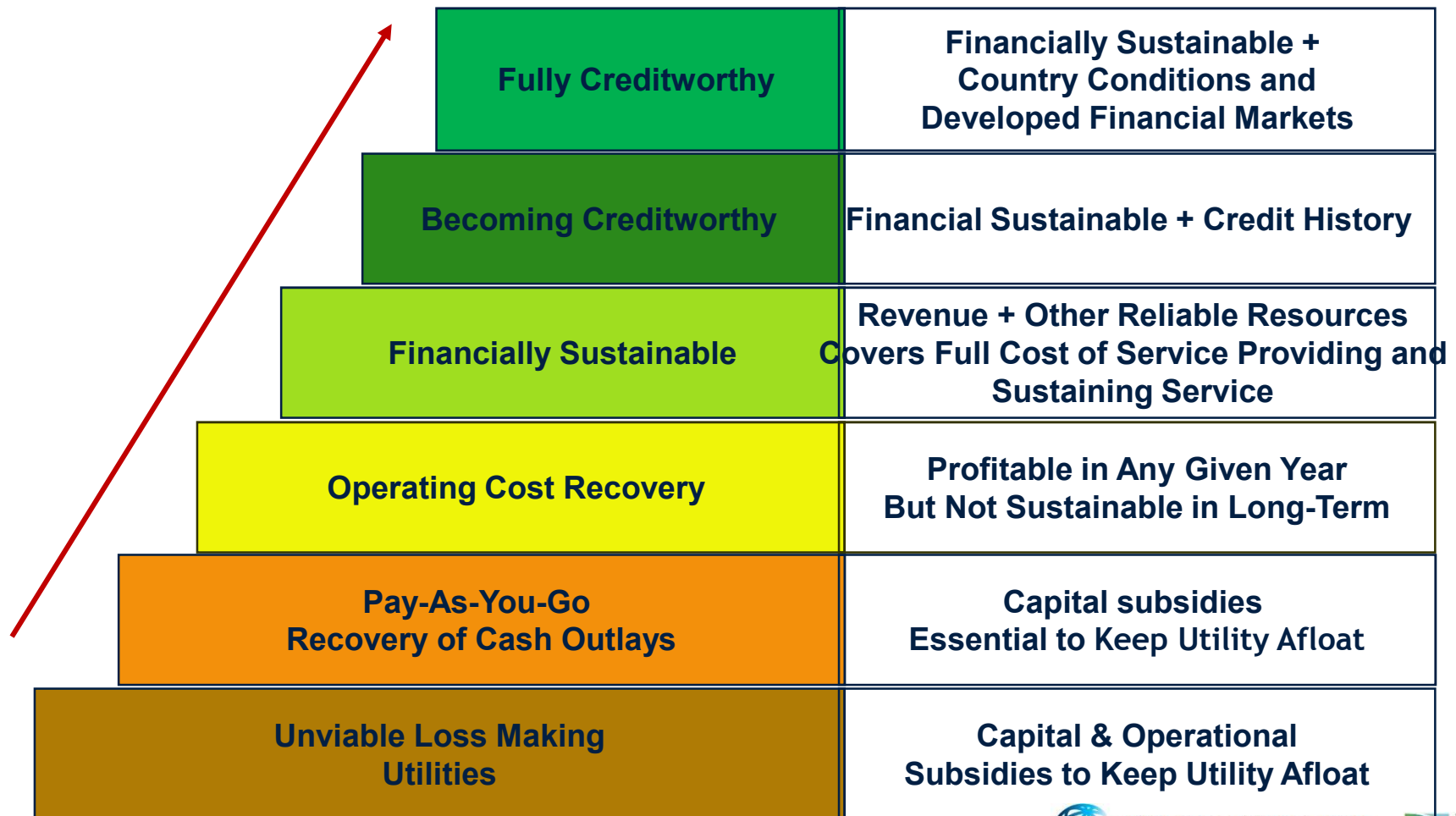


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# 10. Measuring Creditworthiness of Water Utilities

# Creditworthy Utilities are High in the Ladder of Financial Sustainability

Levels of Financial Sustainability



# Measuring Creditworthiness Using Credit Ratings

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- What are credit ratings?
  - An independent and objective evaluation of water providers creditworthiness to banks, financial institutions, and other lenders
- Why to use credit ratings?
  - Proven to be an accurate predictor of the risk of default
- How do credit ratings help utilities to access private finance?
  - Allow potential lenders to compare different providers with each other and assess their relative creditworthiness
  - Assists investors in pricing risk correctly, helping financial institutions decide whether to lend to the entity and calculate the cost (interest rate spread) for the borrower
  - Can improve the negotiating position of the provider with its lenders, especially with regard to financing costs
  - Allows the rated entity to identify and focus on areas that reduce its creditworthiness and launch actions to address these issues

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# 11. Bringing it All Together: Getting Utilities to Access Commercial Finance

# Utilities that access capital directly will perform better and have greater chance of achieving sustainability

## Creditworthy?

- Better able to provide desired quality of service and coverage
- Improved financial performance

## Not creditworthy?

- Limited improvements due to limited ability to do repairs, maintenance, and investment

Improved Operational and Financial Performance

CAPEX Planning

## Creditworthy?

- Well-structured and prioritized multi-year investment plans
- Assess operating and investments decisions within a rigorous economic and financial framework

## Not creditworthy?

- CAPEX defined by political priorities

Invest in CAPEX

Financial Resources Required

## Creditworthy?

- Investments to improve performance and increase coverage

## Not creditworthy?

- Investment on an ad hoc basis and based on politically priorities

## Creditworthy?

- Resources available from revenue
- ## Not creditworthy?
- Rely on budgetary transfers

# Steps for achieving financial sustainability and creditworthiness

Transitioning to financial sustainability requires changes to:  
Utility operations and the operating environment

|   | Change to Utility Operations (Internal)  | Change the Operating Environment (External)   |
|---|--|---|
| <p><b>Minimize Cost of Service</b></p> <p><i>For the costs of service to be reasonable, the utility must operate efficiently</i></p>                | <ul style="list-style-type: none"> <li>• Improve management of the utility</li> <li>• Carry out an integrated operational and financial assessment</li> <li>• Implement a business plan that focuses on the drivers of a utility's performance</li> </ul>  | <ul style="list-style-type: none"> <li>• Reduce political interference that causes inefficiencies in operations</li> <li>• Reduce political interference that results in investments that are not commercially viable</li> <li>• Improve utility governance</li> <li>• Improve project selection</li> </ul> |
| <p><b>Achieve revenue <math>\geq</math> Cost of Service</b></p> <p><i>Recovering costs will often require collaboration with the Government</i></p> | <ul style="list-style-type: none"> <li>• Innovate in:             <ul style="list-style-type: none"> <li>• Tariff structure</li> <li>• Increasing sales to commercial customers</li> <li>• Financing connections</li> <li>• Making case for cost-reflective tariffs</li> <li>• Making case for grants for equity + public goods/externalities</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Secure multi-year funding mechanism (taxes + transfers)</li> <li>• Secure apolitical tariff setting + indexation</li> <li>• Crowd-in commercial finance</li> </ul>   |

# Overall: What Does a Utility Need to Do to Become Creditworthy?

To become increasingly commercial in its operations

- Commercial discipline through improved governance and professional management
- Improved sector performance to close the revenue gap

To operate in an enabling environment

- Transparent, consistent and predictable enabling environment
- Reduced political interference

To rely on user tariffs as the main source of revenue

- Independent regulation
- Targeted subsidies to bridge the social-commercial (or viability) gap
- Subsidies used sparingly and for transition

To use public finance for targeted assistance

- Subsidizing connections or basic need consumption for low-income households
- Subsidizing reduction on negative externalities (e.g. Sanitation)
- Enabling transition from loss-making to creditworthy

To access commercial banks or capital markets

- Use of both domestic versus international capital
- Accessing external financing based on the enterprise's own creditworthiness to gain financial independence



# Conclusions

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The Utility Finance Course provides a good foundation to help WSP's become creditworthy

Creditworthy entities require strong and reliable financial management systems

Understanding utility finance is essential to developing creditworthy WSPs

# Thank you



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