

# The Business of Utilities

APPA Institute for Facilities Management

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.



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# [ Overview ]

- Example of how utility companies make money
- Review a sample utility bill and tariff
- Discuss strategies to reduce utility expenses



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# [ Revenue ]

- **Rate base** – amount invested in the “system” by utility company
- **Rate of return** – the percentage the utility company earns on the rate base



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# [ Expenses ]

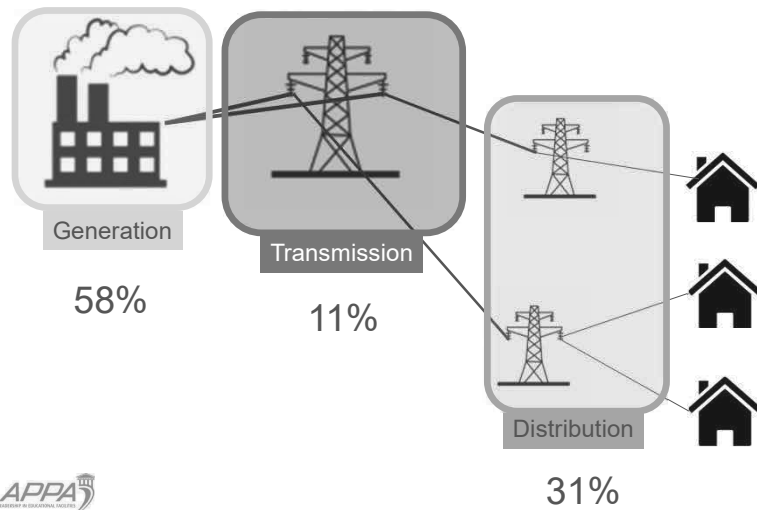
- **Variable expenses** – fuel, maintenance, chemicals, etc.
- **Fixed expenses** – debt service, rent, insurance, dues, etc.



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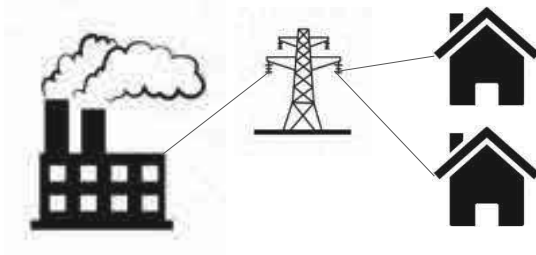
# [ Cost Breakdown ]



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# [ APPA Electric Co. ]

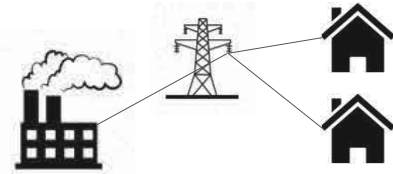


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# [ APPA Electric Co. ]

- Rate base: \$100M
- 10% Rate of return: \$10M
  - Variable expenses: \$7M
  - Total Cost Recovery: \$17M



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# [ APPA Electric Bill ]



Facilities Management  
721 Main Street  
Orlando, FL

Rate	5A
Service Charge	\$4,000,000
Demand Charge @ \$10/kW	\$6,000,000
Energy Charge	
On-Peak Energy Charge @ \$0.09/kWh	\$4,000,000
Off-Peak Energy Charge @ \$0.06/kWh	\$2,500,000
Power Factor Charge	\$500,000
<b>Total</b>	<b>\$17,000,000</b>

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# [ APPA Electric Bill ]



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Power Factor Charge	\$500,000
<b>Total</b>	<b>\$17,000,000</b>

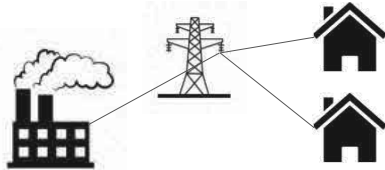
The Service and Demand Charges recover the fixed costs of providing service to this customer class

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# [ APPA Electric Co. ]

Rate base: \$100M



- 10% Rate of return: \$10M
- Variable expenses: \$7M
- Total Cost Recovery: \$17M

## Customer Bills

- Fixed revenue: \$10M



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# [ APPA Electric Bill ]



Facilities Management  
721 Main Street  
Orlando, FL

Rate	5A
Service Charge	\$4,000,000
Demand Charge	\$6,000,000

<b>Energy Charge</b>	
On-Peak Energy Charge @ \$0.09/kWh	\$4,000,000
Off-Peak Energy Charge @ \$0.06/kWh	\$2,500,000
<b>Power Factor Charge</b>	<b>\$500,000</b>

Total \$17,000,000

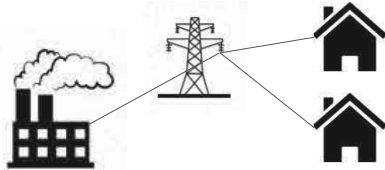
Energy and Power Factor Charges recover the variable costs – the cost to make the power

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# [ Ideal Rate Structure ]

Rate base: \$100M



- 10% Rate of return: \$10M
- Variable expenses: \$7M
- Total Cost Recovery: \$17M

## Customer Bills

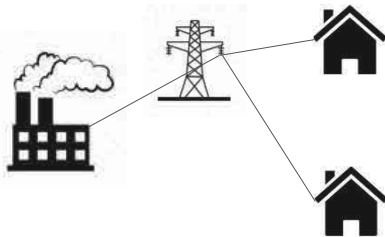
- Fixed revenue: \$10M
- Variable revenue: \$7M
- **Total Revenue: \$17M**
  
- Revenue: \$17M
- Operating expenses: (\$7M)
- Interest expense: (\$4M)
- **Company Profit: \$6M**



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# [ Typical Rate Structure ]

Rate base: \$100M



- 10% Rate of return: \$10M
- Variable expenses: \$7M
- Total Cost Recovery: \$17M

## Customers Bills

- Fixed revenue: \$7M
- Variable revenue: \$10M
- **Total Revenue: \$17M**
  
- Revenue: \$17M
- Operating expenses: (\$7M)
- Interest expense: (\$4M)
- **Company Profit: \$6M**

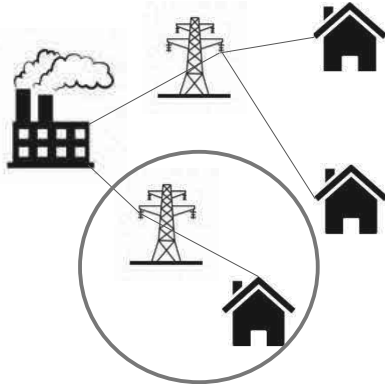


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# [ New Customer ]

Rate base: \$120M



- 10% Rate of return: \$12M
- Variable expenses: \$10M
- **Total Cost Recovery:** \$22M

## Customers Bills

- Fixed revenue: \$10M
- Variable revenue: \$12M
- **Total Revenue:** \$22M
  
- Revenue: \$22M
- Operating expenses: (\$10M)
- Interest expense: (\$5M)
- **Company Profit:** \$7M

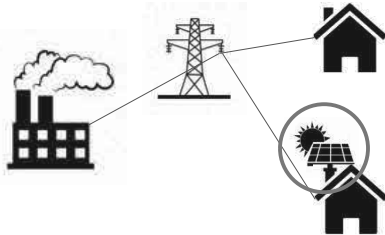


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# [ Customer Adds Renewables ]

Rate base: \$100M



- 10% Rate of return: \$10M
- Variable expenses: \$5M
- **Total Cost Recovery:** \$15M

## Customers Bills

- Fixed revenue: \$7M
- Variable revenue: \$6M
- **Total Revenue:** \$13M
  
- Revenue: \$13M
- Operating expenses: (\$5M)
- Interest expense: (\$4M)
- **Company Profit:** \$4M



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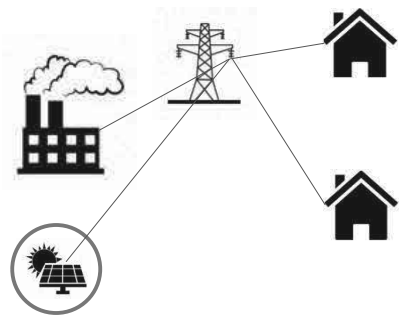
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# [ Company Adds Renewables ]

Rate base: \$120M →

- 10% Rate of return: \$12M
- Variable expenses: \$6M
- Total Cost Recovery: \$18M



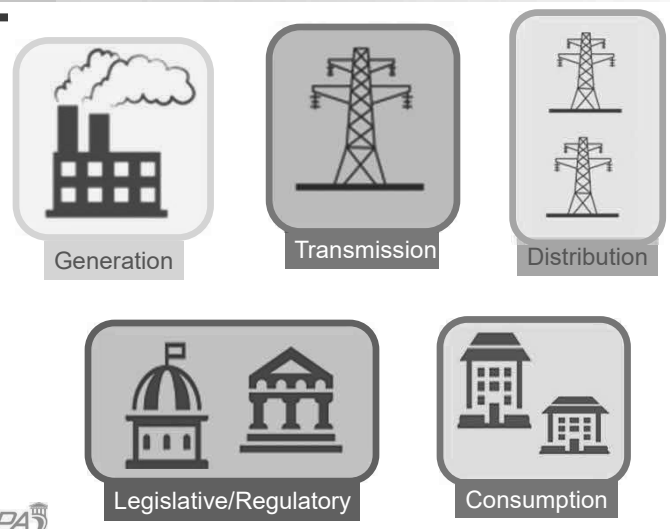
Customers Bills

- Fixed revenue: \$7M
- Variable revenue: \$11M
- **Total Revenue: \$19M**

- Revenue: \$19M
- Operating expenses: (\$6M)
- Interest expense: (\$5M)
- **Company Profit: \$8M**



# [ Opportunities ]



Generation      Transmission      Distribution

Legislative/Regulatory      Consumption

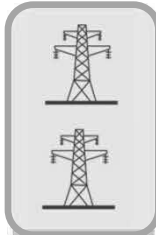


# [ Opportunities - DIY ]



Generation

- Electricity - Cogeneration
- Electricity – Solar
- Water – University owned well



Distribution

- Electricity
- Water



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# [ Opportunities ]



Legislative/Regulatory

- Monitor and shape new laws
- Participate in the regulatory arena
- Join a “large-user” group to share these costs



Consumption

## Demonstrate Savings

- Maintenance and operations?
- Design and Construction?
- Administration and Management?
- UEM?




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The Business of Utilities

Questions, Comments, Observations  
Sign-in Sheet & Evaluations

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