


**[ The Business of Utilities ]**

APPA Institute for Facilities Management  
September 2019

Steve Kraal  
Jeff Zumwalt



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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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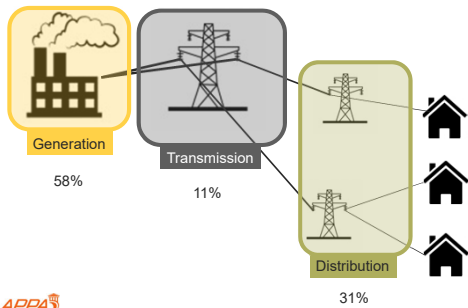
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## [ Cost Breakdown ]



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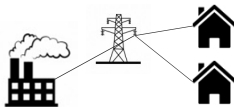
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## [ APPA Electric Co. ]

Rate base: \$100M



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

Customer Bills	
■ Fixed revenue:	\$10M
■ Variable revenue:	\$7M
■ Revenue from rates:	\$17M
■ Operating expenses:	-\$7M
■ Interest expense:	-\$4M
■ Company Profit:	\$6M



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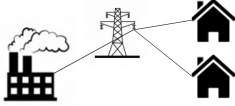
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# [ APPA Electric Co. ]

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
Total		\$17,000,000

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# [ APPA Electric Bill ]



Facilities Management  
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Rate	5A	
Service Charge		\$4,000,000
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On-Peak Energy Charge		\$4,000,000
Off-Peak Energy Charge		\$2,500,000
Power Factor Charge		\$500,000
Total		\$17,000,000

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>
<b>Total</b>	<b>\$17,000,000</b>

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

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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
- Variable revenue: \$7M
- Total Revenue: \$17M**

- Revenue: \$17M
- Operating expenses: (\$7M)
- Interest expense: (\$4M)
- Company Profit: \$6M**

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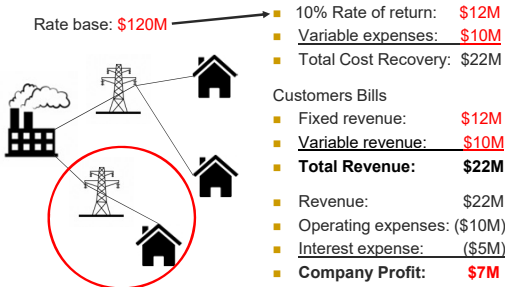
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## [ New Customer ]



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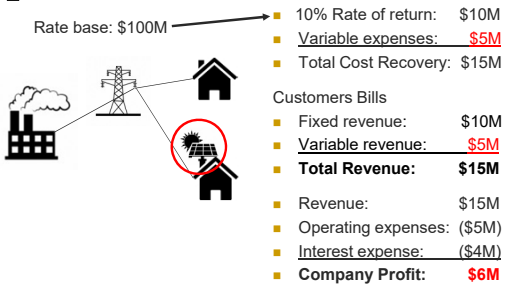
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## [ Add Renewables ]



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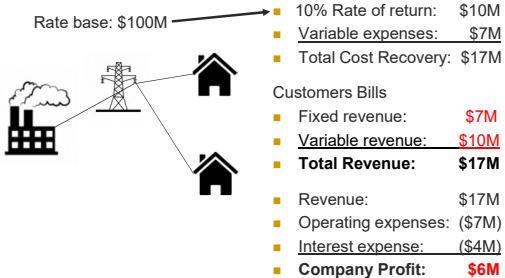
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## [ Imbalanced Fixed and Variable ]



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## [ Imbalanced - Add 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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## [ Opportunities ]

Generation      Transmission      Distribution

Legislative/Regulatory      Consumption



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## [ Opportunities - DIY ]

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

- 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

Related Electives

*Energy Conservation*

*Sustaining Sustainability*

*Renewable Energy PPA's*



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