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CITY RECORDER USE ONLY:

AGENDA ITEM #: ______

MEETING DATE: ______

FINAL ACTION: ______

CITY COUNCIL STAFF REPORT

WORK SESSION:

TO: *City Council*

FROM: *Jesse VanderZanden, City Manager*

MEETING DATE: *March 18, 2019*

PROJECT TEAM: *Paul Downey. Administrative Services Director*
Keith Hormann, Light & Power Director
Bryce Baker, Assistant Finance Director
Joel Peterson. L&P Engineering Manager

SUBJECT TITLE: *Presentation of Draft Electric Cost of Service and Rate Study*

ACTION REQUESTED:		Ordinance		Order		Resolution		Motion	X	Informational

X all that apply

ISSUE STATEMENT: The City has been conducting an Electric Cost of Service and Rate Study for the Light & Power Department. Staff has been working with Financial Consulting Solution Group (FCS Group) to prepare the study. Staff and the consultant are here to present preliminary results of the study and ask for direction from the Council with the implementation of the draft results.

BACKGROUND: A formal cost of service and rate study (Study) was last performed in late 2014. Since that time, the City has completed the rebuilding of two substations and replaced the three large transformers at those substations. Staff had previously informed the Council that the 2014 Study would be updated after the substation projects were completed.

Staff hired FCS Group, who performed the 2014 Study, to do this update of the Study. The Study looked at FY 2019-20 through FY 2025-26. FCS Group is here tonight to present the results of the Study.

This Study looks at primarily three issues: 1) the total cost of providing electric service; and 2) the revenue requirement to fund all financial obligations including maintaining sufficient reserves which determines what rate increases are necessary over time to meet those obligations; and 3) the cost of service portion of the Study distributes the revenue requirements among the different classes of customers based on the allocation of costs on equitable basis.

FISCAL IMPACT: The study demonstrates the need for continued rate increases to meet all financial obligations. The fiscal impact has not been determined as the amount of any rate increases to fund increasing costs or to balance cost of services between customer classes has not yet been determined.

STAFF RECOMMENDATION: There is no recommendation by staff as the purpose of this work session is for staff to receive direction on how to proceed with the implementation of the Study.

ATTACHMENT(s): Presentation of Draft Electric Cost of Service and Rate Study

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City Council Worksession

Electric Cost of Service and Rate Study

Presented by:
Sergey Tarasov, Project Manager
Matt Hobson, Project Manager

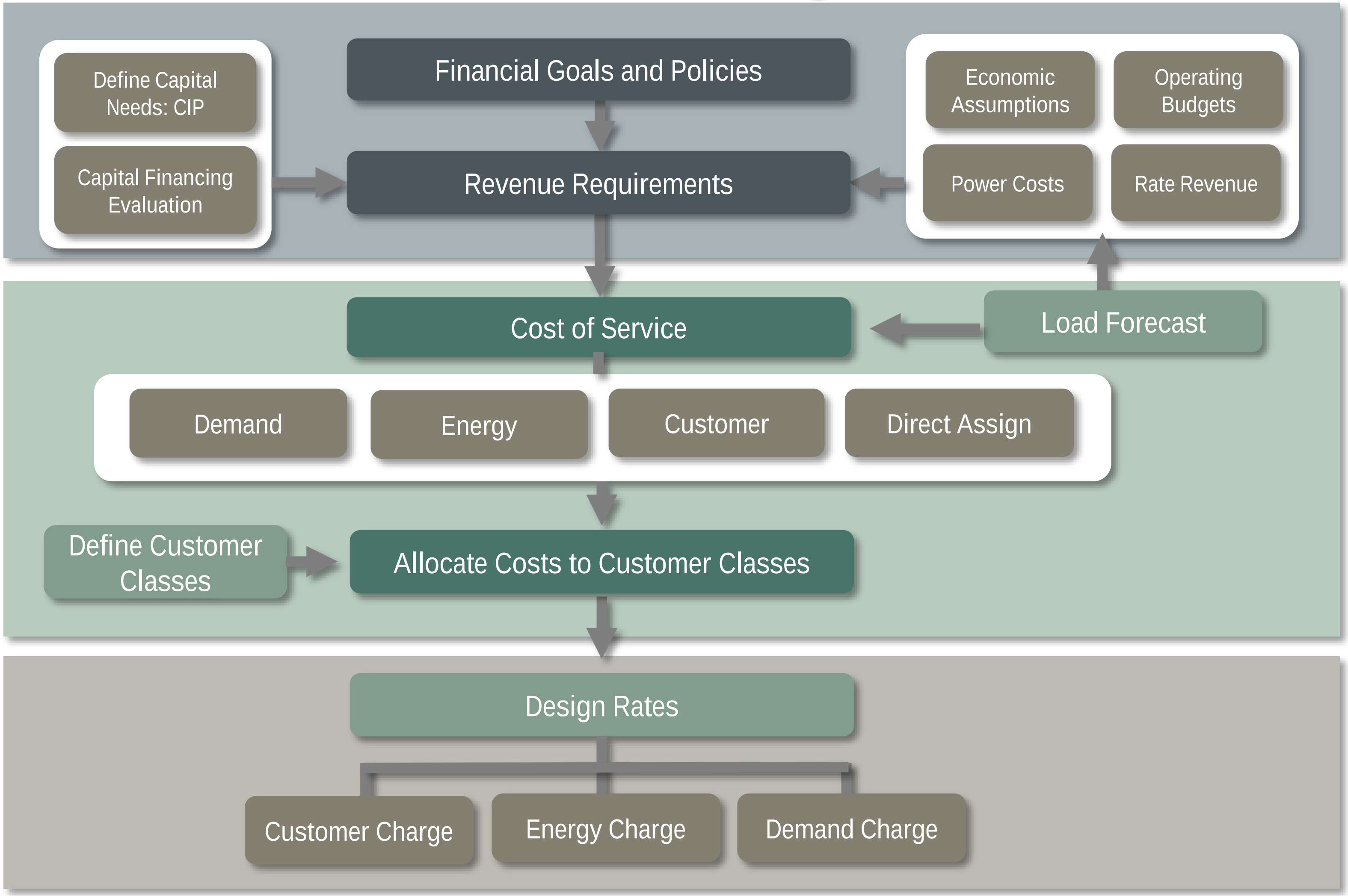
March 18, 2019

FCS GROUP
Solutions-Oriented Consulting

Discussion Outline

- Overview of rate study process
- Key assumptions
- Summary of findings
  - Revenue requirement
  - Cost of service
  - Rate design
- Next steps
- Discussion/ Input

Overview of Rate Setting Process



REVENUE REQUIREMENT

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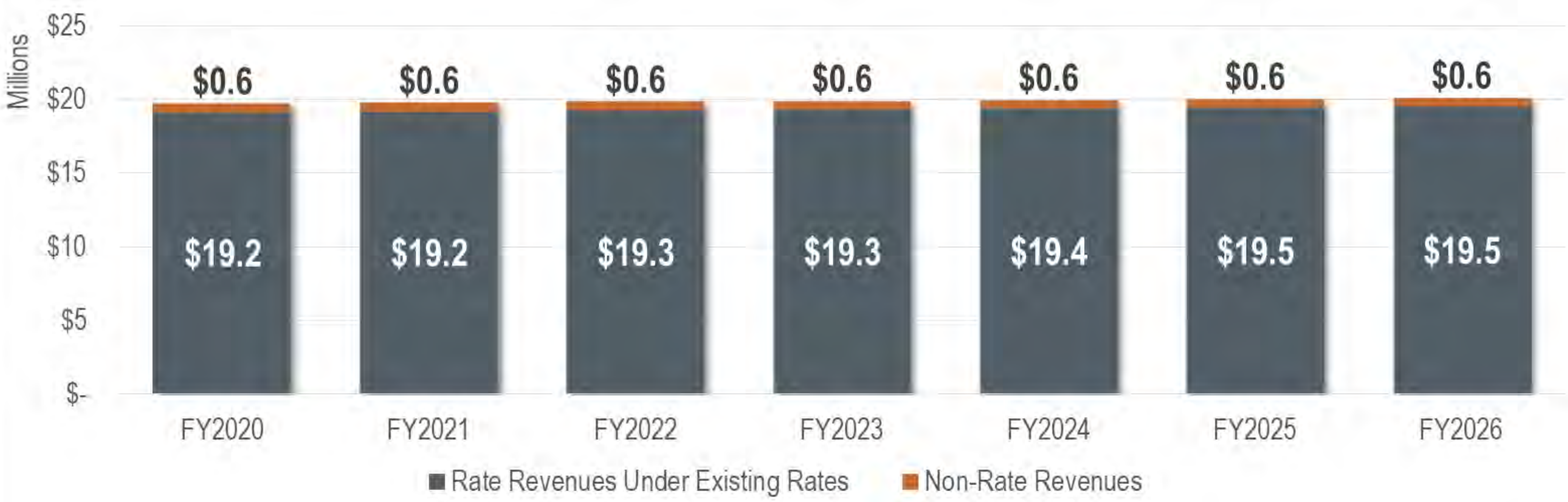
Revenue Requirement Overview

- Determine the amount of annual revenue necessary to fund all financial obligations
  - Operating expenses
  - Debt service (principal & interest)
  - Capital costs and funding approach
- Meet financial parameters and targets
  - Target debt service coverage ratios
  - Maintain target reserve balances
- Evaluate revenue sufficiency over multi-year period
- Develop rate plan to balance financial needs and minimize customer impacts

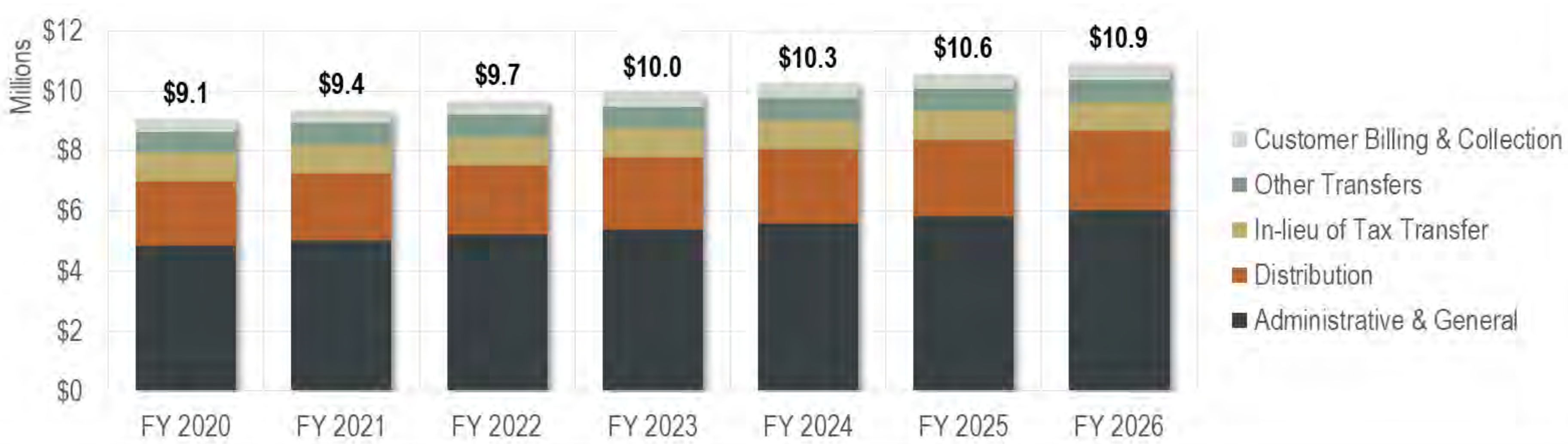
Key Factors: Existing Revenue

- Focus Period: FY 2020 to FY 2026
- Annual rate revenue at existing rates ranges from \$19.2 million to \$19.5 million
- Other revenue sources include connection charges, pole and auditorium rental, sales of materials, and reimbursements for lighting and conservation incentives
- Revenue from all sources ranges from \$19.8 million to \$20.1 million



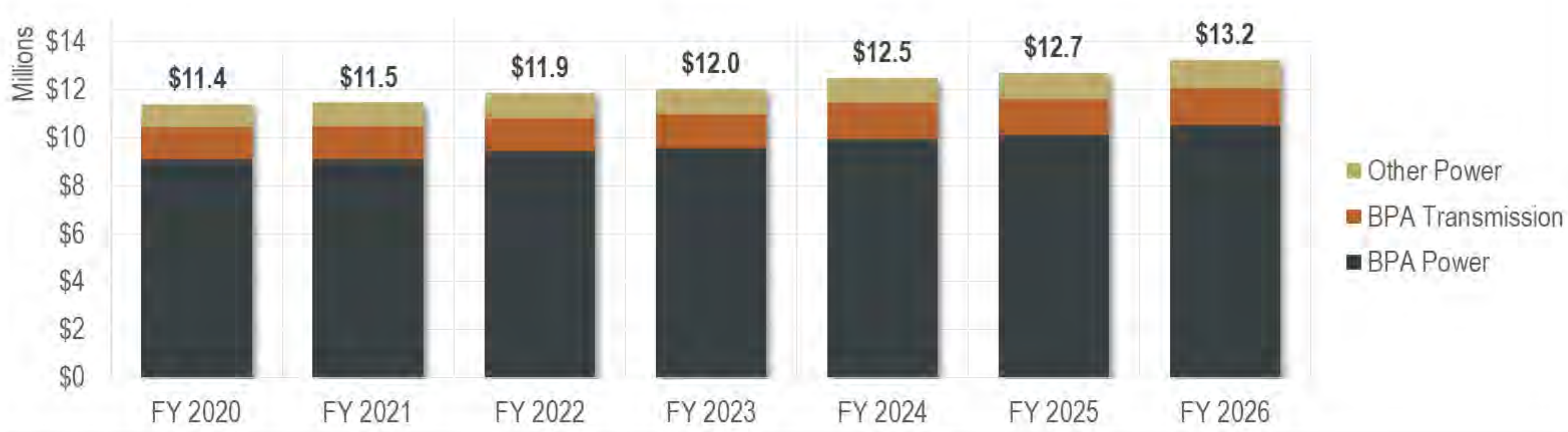
Key Factors: Operating Expenses

- FY 2019 budget used as baseline:
  - Labor and benefits inflation: 6.50% in FY 2020; 3.00% for salaries and 5.00% for benefits from FY 2021 to FY 2026
  - General cost inflation: 3.00% throughout study period
  - In-lieu of tax transfer to General Fund: 5.00% of annual rate revenue
  - Overall annual inflation: 3.00% to 3.91%
- Total O&M expenses $9.1 million to $10.9 million



Key Factors: Power

- Power & Transmission based on load and BPA billing determinants
  - Includes BPA FY 2018 Power & Transmission actual rates
  - Includes draft FY 2020 BPA Power & Transmission rates; 5.0% bi-annually starting in FY 2022
  - Annual inflation of 4.4% for existing resources
  - Assumes 1.0 aMW in ARHW purchases – remarketed through FY 2023
- Total power expense: $11.4 million to $13.2 million



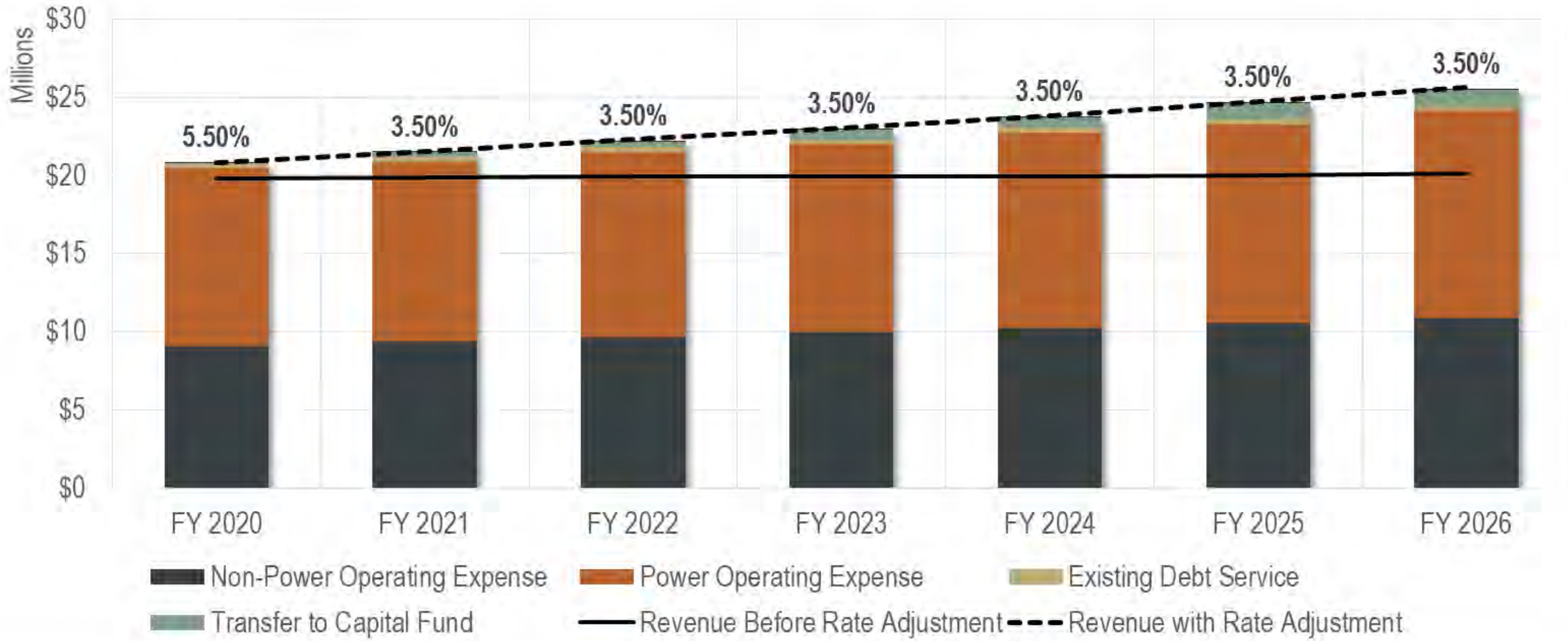
Key Factors: Capital and Debt

- $4.6 million in capital improvements from FY 2020 to FY 2026 funded by:
  - Existing capital reserves
  - Transfers from operating fund
  - Transfers from equipment replacement reserve
- Annual debt service: $305,000
- No new debt

Financial Policy Targets

Policy	Purpose	Target
Operating Reserve	Liquidity cushion to accommodate cyclical cash flow fluctuations.	60 Days O&M & Power ($3.4 million to $4.0 million)
Capital Contingency Reserve	To meet emergency repairs, unanticipated capital, and project cost overruns.	1.0% of Plant ($377,000 average)
System Reinvestment Funding	Promote ongoing system integrity through reinvestment in the system.	Target: annual depreciation Phased-in by FY 2023
Debt Service Coverage	Compliance with existing loan/debt covenants and maintain credit worthiness for future debt issuance.	Target: 1.50X

Revenue Requirement: Baseline



Description	Existing	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Annual Increase		5.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Average Residential Monthly Bill	$ 87.11	$ 91.90	$ 95.12	$ 98.45	$ 101.89	$ 105.46	$ 109.15	$ 112.97
$ per Month Increase		$ 4.79	$ 3.22	$ 3.33	$ 3.45	$ 3.57	$ 3.69	$ 3.82

Note: Residential monthly bill based on assumed average monthly energy use of 1,100 kWh

COST OF SERVICE ANALYSIS (COSA)

based on FY 2020 proposed 5.5% increase

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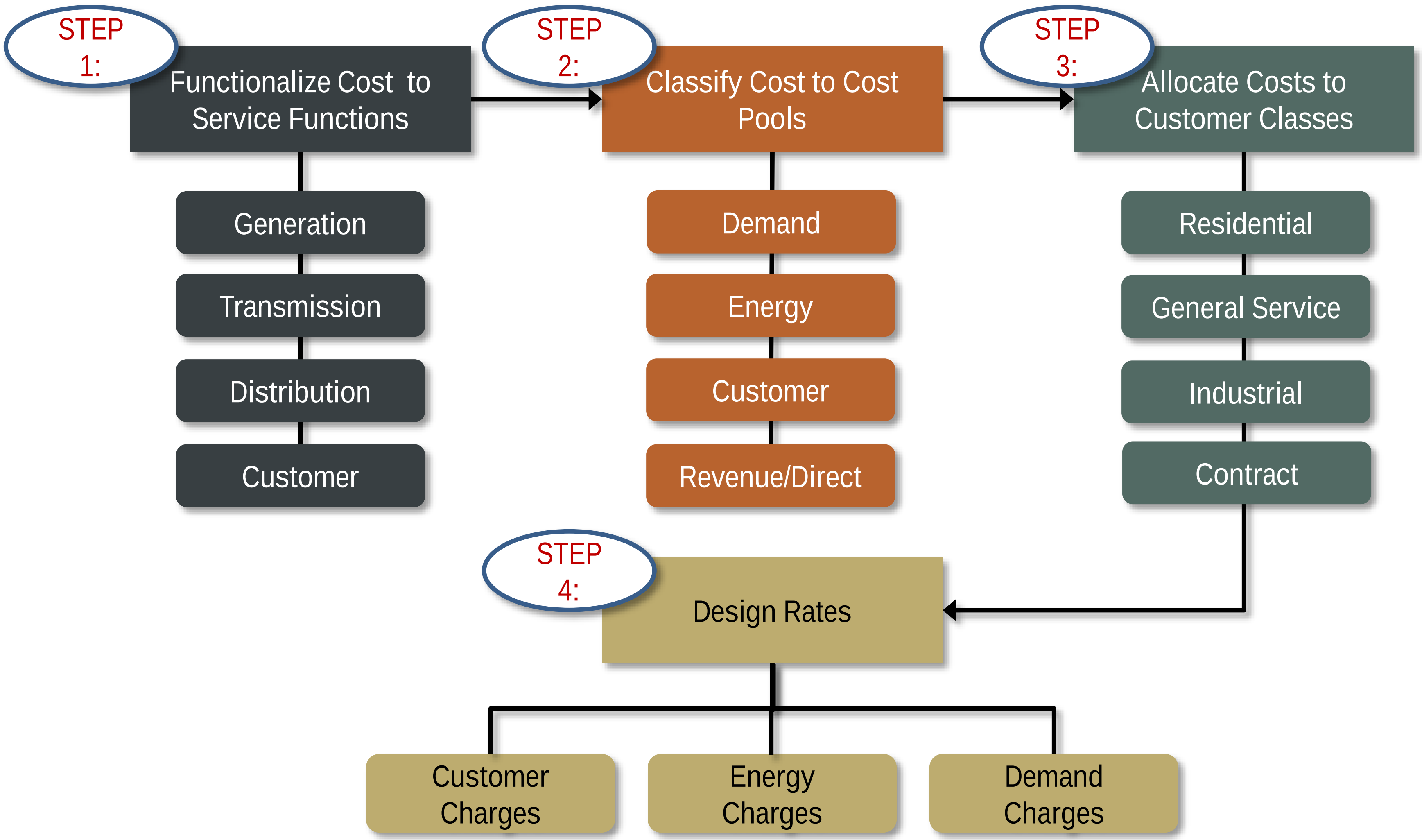
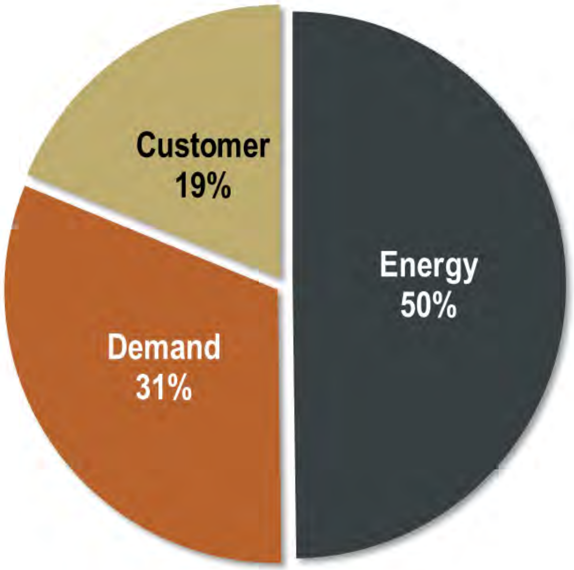
Cost of Service Objectives

- An equitable distribution of cost share that considers utility specific data:
  - Measures of usage and demand
  - Planning, engineering and design criteria
  - Facility requirements
- Total cost by class (equity)
- Unit costs ($/usage; $/customer)
- Fundamental question: Do cost differences exist to serve different customer classes of service?

Overview of Cost of Service Process

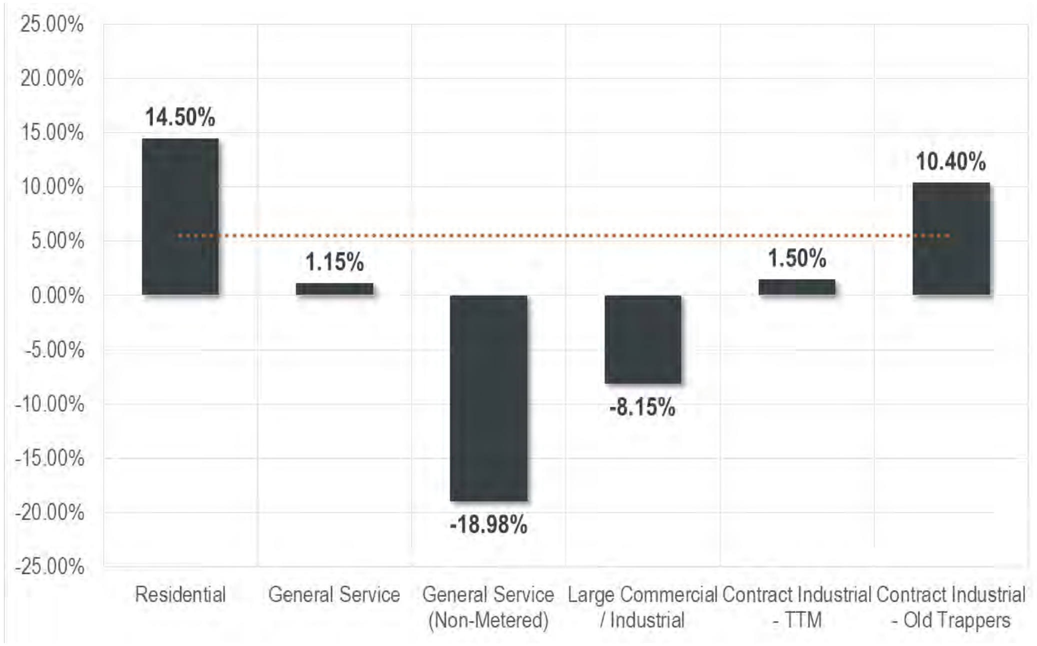


Summary of Cost Classification



Energy	Costs that vary with the total consumption (flow) of the electricity over a specified period of time. Measured in kilowatt-hours (kWh's)
Demand	Costs predicated upon the maximum rate of use required at one point in time. Demand may be coincident or non-coincident to the system peak demand. Demand is measured in kilowatts (kW's)
Customer	Fixed costs associated with having a customer on the system. These costs vary with the addition or deletion of customers, and not consumptive use – metering/billing/ account services

Cost Service Results



Cost of Service by Customer Class	FY 2020 Existing	FY 2020 COSA	Difference $	Difference %
Residential	$ 9,365,155	$ 10,722,658	$ 1,357,503	14.50%
General Service	1,766,807	1,787,156	20,349	1.15%
General Service (Non-Metered)	29,101	23,578	(5,523)	-18.98%
Large Commercial / Industrial	4,963,191	4,558,804	(404,387)	-8.15%
Contract Industrial - TTM	1,724,211	1,750,041	25,830	1.50%
Contract Industrial - Old Trappers	1,107,765	1,223,007	115,242	10.40%
Irrigation	3,358	7,434	4,076	121.36%
Rental Lighting	113,714	33,501	(80,213)	-70.54%
Street Lighting	81,442	102,076	20,634	25.34%
Total	$ 19,154,744	$ 20,208,255	$ 1,053,511	5.50%

- ±5.0% of average is within Cost of Service (industry standard)
  - Residential can increase towards COSA
  - General service classes can decrease towards COSA
  - Smaller classes like Irrigation most unaligned with COSA
- Study findings are generally consistent with FY 2014 study

Proposed COSA Phase-In Strategy

Customer Class	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Residential	7.24%	4.93%	4.87%	4.82%	4.77%	4.73%	4.68%
General Service	5.50%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%
General Service (Non-Metered)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Large Commercial / Industrial	2.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%
Contract Industrial - TTM	5.50%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Contract Industrial - Old Trappers	5.50%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Irrigation	5.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Rental Lighting	5.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Street Lighting	5.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Total	5.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

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RATE DESIGN

Based on class based COSA Phase-In

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Rate Design Considerations

- Produce sufficient revenue to meet the overall financial requirements of the utility
- Cost-based and equitable
- Meets the goals and objectives of the utility
- Proposed rate design changes
  - Aligns with class based COSA phase-in

Cost of Service Unit Costs

Cost of Service Unit Costs	Energy $/kWh	Demand $/kW	Customer $/Mo.
Residential	$ 0.0390	$ 2.97	$ 31.66
General Service	0.0390	6.96	32.28
General Service (Non-Metered)	0.0390	6.77	26.91
Large Commercial / Industrial	0.0390	8.16	90.56
Contract Industrial - TTM	0.0390	9.94	90.56
Contract Industrial - Old Trappers	0.0390	9.99	90.56
Irrigation	0.0390	9.10	60.71

Residential Rate Design

Monthly Energy Use (kWh)	Existing	Total Monthly Bill FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
200	$ 30.40	$ 32.61	$ 34.22	$ 35.89	$ 37.62	$ 39.40	$ 41.27	$ 43.20	
400	42.76	45.87	48.14	50.49	52.92	55.42	58.05	60.76	
700	61.30	65.76	69.02	72.39	75.87	79.45	83.22	87.10	
900	73.66	79.02	82.94	86.99	91.17	95.47	100.00	104.66	
1,100	87.11	93.44	98.07	102.85	107.80	112.90	118.25	123.77	*Average*
1,400	108.92	116.81	122.58	128.53	134.74	141.16	147.83	154.76	
1,700	130.73	140.18	147.09	154.21	161.68	169.42	177.41	185.75	
2,200	167.08	179.13	187.94	197.01	206.58	216.52	226.71	237.40	
3,300	247.05	264.82	277.81	291.17	305.36	320.14	335.17	351.03	

Monthly Energy Use (kWh)	Existing	$ Difference FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
200		$ 2.21	$ 1.61	$ 1.67	$ 1.73	$ 1.78	$ 1.87	$ 1.93	
400		3.11	2.27	2.35	2.43	2.50	2.63	2.71	
700		4.46	3.26	3.37	3.48	3.58	3.77	3.88	
900		5.36	3.92	4.05	4.18	4.30	4.53	4.66	
1,100		6.33	4.63	4.78	4.95	5.10	5.35	5.52	*Average*
1,400		7.89	5.77	5.95	6.21	6.42	6.67	6.93	
1,700		9.45	6.91	7.12	7.47	7.74	7.99	8.34	
2,200		12.05	8.81	9.07	9.57	9.94	10.19	10.69	
3,300		17.77	12.99	13.36	14.19	14.78	15.03	15.86	

General Service Rate Design

Monthly Energy Use (kWh)	Existing	Total Monthly Bill FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
500	$ 54.95	$ 57.94	$ 59.61	$ 61.30	$ 63.01	$ 64.84	$ 66.69	$ 68.56	
1,000	89.15	93.99	96.71	99.45	102.21	105.19	108.19	111.21	
1,400	116.51	122.83	126.39	129.97	133.57	137.47	141.39	145.33	
1,900	150.71	158.88	163.49	168.12	172.77	177.82	182.89	187.98	
2,400	184.91	194.93	200.59	206.27	211.97	218.17	224.39	230.63	*Average*
3,000	225.95	238.19	245.11	252.05	259.01	266.59	274.19	281.81	
3,600	266.99	281.45	289.63	297.83	306.05	315.01	323.99	332.99	
4,800	349.07	367.97	378.67	389.39	400.13	411.85	423.59	435.35	
7,200	513.23	541.01	556.75	572.51	588.29	605.53	622.79	640.07	

Monthly Energy Use (kWh)	Existing	$ Difference FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
500		$ 2.99	$ 1.67	$ 1.69	$ 1.71	$ 1.83	$ 1.85	$ 1.87	
1,000		4.84	2.72	2.74	2.76	2.98	3.00	3.02	
1,400		6.32	3.56	3.58	3.60	3.90	3.92	3.94	
1,900		8.17	4.61	4.63	4.65	5.05	5.07	5.09	
2,400		10.02	5.66	5.68	5.70	6.20	6.22	6.24	*Average*
3,000		12.24	6.92	6.94	6.96	7.58	7.60	7.62	
3,600		14.46	8.18	8.20	8.22	8.96	8.98	9.00	
4,800		18.90	10.70	10.72	10.74	11.72	11.74	11.76	
7,200		27.78	15.74	15.76	15.78	17.24	17.26	17.28	

Large Commercial / Industrial Rate Design

Monthly Energy Use (kWh)	Existing	Total Monthly Bill FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
3,400	$ 743.89	$ 760.89	$ 770.11	$ 779.96	$ 789.82	$ 799.42	$ 809.64	$ 819.26	
6,800	1,331.93	1,362.43	1,378.87	1,396.56	1,414.26	1,431.42	1,449.82	1,467.00	
10,100	2,004.01	2,049.90	2,074.65	2,101.26	2,127.88	2,153.68	2,181.33	2,207.15	
13,500	2,592.05	2,651.44	2,683.41	2,717.86	2,752.32	2,785.68	2,821.51	2,854.89	
16,900	3,268.29	3,343.16	3,383.49	3,426.91	3,470.34	3,512.40	3,557.54	3,599.62	*Average*
21,100	4,057.81	4,150.80	4,200.85	4,254.76	4,308.68	4,360.88	4,416.93	4,469.15	
25,400	4,919.79	5,032.49	5,093.21	5,158.56	5,223.92	5,287.22	5,355.14	5,418.46	
33,800	6,468.93	6,617.15	6,696.95	6,782.91	6,868.88	6,952.10	7,041.47	7,124.71	
50,700	9,669.57	9,891.14	10,010.41	10,138.91	10,267.42	10,391.80	10,525.40	10,649.80	

Monthly Energy Use (kWh)	Existing	$ Difference FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
3,400		$ 17.00	$ 9.22	$ 9.85	$ 9.86	$ 9.60	$ 10.22	$ 9.62	
6,800		30.50	16.44	17.69	17.70	17.16	18.40	17.18	
10,100		45.89	24.75	26.61	26.62	25.80	27.65	25.82	
13,500		59.39	31.97	34.45	34.46	33.36	35.83	33.38	
16,900		74.87	40.33	43.42	43.43	42.06	45.14	42.08	*Average*
21,100		92.99	50.05	53.91	53.92	52.20	56.05	52.22	
25,400		112.70	60.72	65.35	65.36	63.30	67.92	63.32	
33,800		148.22	79.80	85.96	85.97	83.22	89.37	83.24	
50,700		221.57	119.27	128.50	128.51	124.38	133.60	124.40	

Proposed Rates – Monthly Customer Charge

Customer Charge - $/Mo.	Existing	Proposed Rates						
		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Residential	$ 18.04	$ 19.35	$ 20.30	$ 21.29	$ 22.32	$ 23.38	$ 24.49	$ 25.64
General Service								
Single Phase	20.75	21.89	22.51	23.15	23.81	24.49	25.19	25.91
Three Phase	32.51	34.30	35.28	36.29	37.32	38.38	39.47	40.59
General Service (Non-Metered)	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44
Large Commercial / Industrial	67.65	69.17	70.03	70.91	71.80	72.70	73.61	74.53
Contract Industrial - TTM	57.31	60.46	61.82	63.21	64.63	66.08	67.57	69.09
Contract Industrial - Old Trappers	57.31	60.46	61.82	63.21	64.63	66.08	67.57	69.09
Irrigation	19.33	20.39	21.10	21.84	22.60	23.39	24.21	25.06
Rental Lighting	8.78	9.26	9.58	9.92	10.27	10.63	11.00	11.39
Street Lighting		-	-	-	-	-	-	-

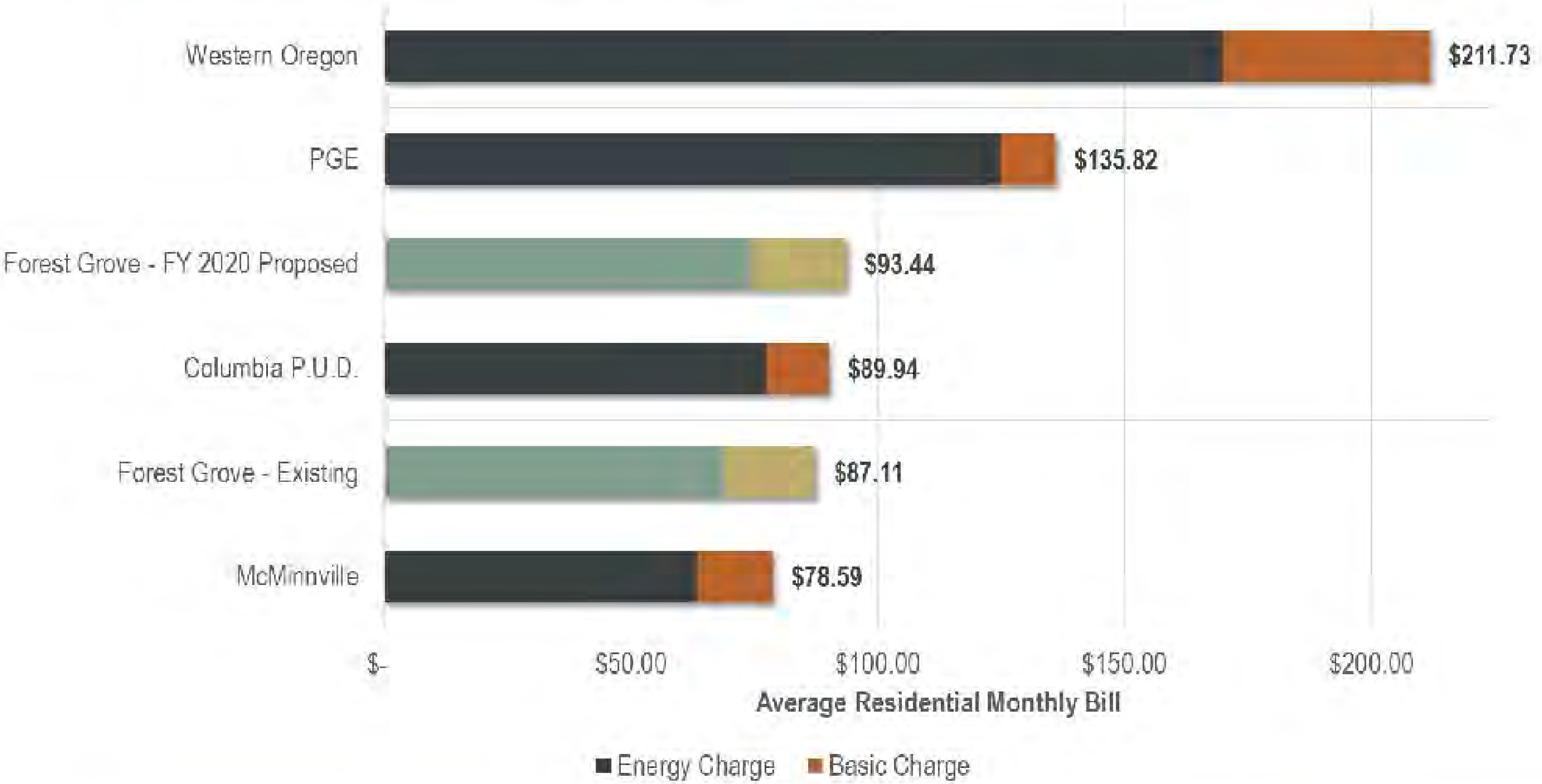
Proposed Rates – Energy Charge

Energy Charge - $/kWh	Existing	Proposed Rates FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Residential								
Tier 1 (0 - 1,000 kWh)	$ 0.0618	$ 0.0663	$ 0.0696	$ 0.0730	$ 0.0765	$ 0.0801	$ 0.0839	$ 0.0878
Tier 2 (1,001+ kWh)	0.0727	0.0779	0.0817	0.0856	0.0898	0.0942	0.0986	0.1033
General Service	0.0684	0.0721	0.0742	0.0763	0.0784	0.0807	0.0830	0.0853
General Service (Non-Metered)	0.0672	0.0672	0.0672	0.0672	0.0672	0.0672	0.0672	0.0672
Large Commercial / Industrial								
LLH	0.0416	0.0425	0.0430	0.0435	0.0440	0.0446	0.0452	0.0458
HLH	0.0500	0.0512	0.0518	0.0525	0.0532	0.0538	0.0545	0.0551
Contract Industrial - TTM								
LLH	0.0371	0.0391	0.0400	0.0409	0.0418	0.0427	0.0437	0.0447
HLH	0.0446	0.0471	0.0481	0.0492	0.0503	0.0515	0.0526	0.0538
Contract Industrial - Old Trappers								
LLH	0.0371	0.0391	0.0400	0.0409	0.0418	0.0427	0.0437	0.0447
HLH	0.0446	0.0471	0.0481	0.0492	0.0503	0.0515	0.0526	0.0538
Irrigation	0.0575	0.0607	0.0628	0.0650	0.0673	0.0697	0.0721	0.0746
Rental Lighting	-	-	-	-	-	-	-	-
Street Lighting	0.0672	0.0709	0.0734	0.0759	0.0786	0.0814	0.0842	0.0871

Proposed Rates – Demand Charge

Demand Charge - $/kW	Existing	Proposed Rates FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Large Commercial / Industrial	$ 6.83	$ 6.98	$ 7.07	$ 7.16	$ 7.25	$ 7.34	$ 7.43	$ 7.52
Reactive Demand Charge	2.49	2.55	2.58	2.61	2.64	2.67	2.70	2.73
Contract Industrial - TTM	6.83	7.21	7.37	7.54	7.71	7.88	8.06	8.24
Reactive Demand Charge	2.21	2.33	2.38	2.43	2.48	2.54	2.60	2.66
Contract Industrial - Old Trappers	6.83	7.21	7.75	8.31	8.91	9.53	10.19	10.88
Reactive Demand Charge	2.21	2.33	2.38	2.43	2.48	2.54	2.60	2.66

Residential Rate Survey



Next Steps

- City Council feedback and direction
  - Revenue requirement – overall annual increases
    - 5.50% in FY 2020; 3.50% from FY 2021 to FY 2026
  - Cost of service – move rates towards cost of service by FY 2026?
  - Rate design – across the board increases to all rate components
- Rates effective July 1st of each fiscal year

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