



## **ELECTRIC RATE TRENDS STUDY**

### **Finance/Rates Division**

#### **Customer Relations/Finance Committee**

May 16, 2022

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## **BACKGROUND**

1. NewGen was approved to complete the Electric Cost of Service and Rate Design Project
2. Phase II Electric Rate Trends Study
  - a. Rate making principles
  - b. Electric rate alternatives and electric utility survey
  - c. Summary of general recommendations
  - d. Implementation considerations



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# RATEMAKING PRINCIPLES DRIVE RATE DESIGN

City Council  
Approved  
July 26, 2016



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## TYPES OF RATES OFFERED (TABLE A-1)

| Current RPU Rate Offerings                      | Alameda | Anaheim | Austin Energy | Azusa | Burbank | Glendale | Green Mountain Power | Los Angeles | Palo Alto | Pasadena | Redding | Riverside | SMUD | SCE | Silicon Valley Power |
|-------------------------------------------------|---------|---------|---------------|-------|---------|----------|----------------------|-------------|-----------|----------|---------|-----------|------|-----|----------------------|
| 1 Economic Development Rate                     | ✓       | ✓       |               | ✓     |         |          |                      |             |           | ✓        | ✓       | ✓         | ✓    | ✓   | ✓                    |
| 2 Electric Vehicle TOU Rate- Residential        | ✓       | ✓       | ✓             | ✓     | ✓       |          | ✓                    | ✓           |           |          |         | ✓         | ✓    | ✓   | ✓                    |
| 3 EV Public Charging Stations                   | ✓       | ✓       | ✓             |       | ✓       | ✓        |                      | ✓           | ✓         | ✓        |         | ✓         | ✓    | ✓   |                      |
| 4 Feed-In Tariff                                |         | ✓       |               |       |         | ✓        |                      | ✓           | ✓         |          |         | ✓         | ✓    | ✓   | ✓                    |
| 5 High Voltage Rates                            | ✓       | ✓       | ✓             | ✓     |         |          |                      |             | ✓         |          | ✓       | ✓         |      | ✓   | ✓                    |
| 6 Increased Fixed Charge                        | ✓       |         |               | ✓     | ✓       | ✓        |                      |             |           | ✓        | ✓       | ✓         | ✓    |     |                      |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | ✓       | ✓       |               | ✓     | ✓       | ✓        |                      | ✓           | ✓         | ✓        | ✓       | ✓         | ✓    | ✓   | ✓                    |
| 8 Network Access Charge                         |         |         |               |       |         |          |                      |             |           | ✓        | ✓       | ✓         |      |     |                      |
| 9 Reliability Charge                            |         |         |               |       | ✓       |          |                      | ✓           |           |          |         | ✓         |      |     |                      |
| 10 Seasonal Rates                               | ✓       | ✓       | ✓             | ✓     | ✓       | ✓        | ✓                    | ✓           | ✓         | ✓        |         | ✓         | ✓    | ✓   | ✓                    |
| 11 Medium and Large Commercial Demand Charge    | ✓       |         |               | ✓     |         | ✓        | ✓                    | ✓           |           |          |         | ✓         | ✓    | ✓   | ✓                    |
| 12 Standby Charge                               | ✓       |         | ✓             | ✓     | ✓       |          |                      | ✓           | ✓         | ✓        | ✓       | ✓         | ✓    | ✓   | ✓                    |
| 13 Street Lighting LED Rates                    | ✓       |         | ✓             |       |         |          | ✓                    |             | ✓         | ✓        |         | ✓         | ✓    | ✓   |                      |
| 14 Tiered Rates                                 | ✓       | ✓       | ✓             | ✓     | ✓       | ✓        | ✓                    | ✓           | ✓         | ✓        |         | ✓         | ✓    | ✓   | ✓                    |
| 15 TOU for Residential (Tiered and Non-Tiered)  | ✓       | ✓       | ✓             |       | ✓       | ✓        | ✓                    | ✓           | ✓         | ✓        |         | ✓         | ✓    | ✓   | ✓                    |
| 16 TOU for Large Commercial and Industrial      |         | ✓       |               | ✓     | ✓       | ✓        |                      |             | ✓         | ✓        |         | ✓         | ✓    | ✓   | ✓                    |
| 17 Voluntary Renewable Pricing                  | ✓       | ✓       | ✓             |       | ✓       |          | ✓                    | ✓           | ✓         | ✓        |         | ✓         | ✓    | ✓   | ✓                    |

## TYPES OF RATES OFFERED (TABLE A-1)

| Not Currently Offered by RPU                  | Alameda | Anaheim | Austin Energy | Azusa | Burbank | Glendale | Green Mountain Power | Los Angeles | Palo Alto | Pasadena | Redding | Riverside | SMUD | SCE | Silicon Valley Power |
|-----------------------------------------------|---------|---------|---------------|-------|---------|----------|----------------------|-------------|-----------|----------|---------|-----------|------|-----|----------------------|
| 18 Small Residential Class                    |         | ✓       |               |       |         |          |                      |             |           | ✓        | ✓       |           | ✓    | ✓   |                      |
| 19 Residential Demand Charge                  |         |         |               |       |         |          |                      |             |           |          |         |           |      |     |                      |
| 20 Small Commercial Demand Charge             | ✓       |         |               | ✓     |         | ✓        | ✓                    | ✓           |           |          |         |           | ✓    | ✓   | ✓                    |
| 21 TOU for Small & Medium Commercial          |         | ✓       |               | ✓     | ✓       | ✓        |                      | ✓           | ✓         | ✓        |         |           | ✓    | ✓   | ✓                    |
| 22 Commercial and Industrial EV Charging      |         | ✓       |               |       |         |          |                      |             |           |          |         |           |      | ✓   |                      |
| 23 Critical Peak Pricing                      |         |         |               |       |         |          | ✓                    |             |           |          |         |           | ✓    | ✓   | ✓                    |
| 24 Real-Time Pricing                          |         |         |               |       |         |          |                      | ✓           |           |          |         |           |      | ✓   | ✓                    |
| 25 Decoupling                                 |         |         |               |       |         | ✓        |                      | ✓           |           |          |         |           |      |     |                      |
| 26 Optional Rates with High Fixed Charges     |         |         |               |       |         |          |                      |             |           |          |         |           |      |     | ✓                    |
| 27 Power Factor Charges                       | ✓       | ✓       |               | ✓     |         | ✓        |                      | ✓           | ✓         | ✓        | ✓       |           | ✓    | ✓   | ✓                    |
| 28 Power Cost Adjustment                      | ✓       | ✓       | ✓             | ✓     | ✓       | ✓        |                      | ✓           |           | ✓        | ✓       |           |      | ✓   | ✓                    |
| 29 Regulatory Adjustment                      |         | ✓       | ✓             |       |         | ✓        |                      |             |           |          | ✓       |           |      |     |                      |
| 30 Special Rates/Charges (i.e. Wildfire Rate) |         |         |               |       |         |          |                      |             |           |          | ✓       |           |      | ✓   |                      |
| 31 Transmission Access Charge                 |         |         | ✓             |       |         |          |                      |             |           | ✓        |         |           |      | ✓   |                      |
| 32 Unbundled Rates                            | ✓       |         |               |       |         | ✓        |                      |             | ✓         | ✓        |         |           |      | ✓   | ✓                    |
| 33 Community Solar                            |         |         | ✓             |       |         |          |                      | ✓           |           |          |         |           | ✓    | ✓   | ✓                    |
| 34 Virtual / Aggregated Self-Generation       |         |         |               |       |         |          |                      |             |           |          |         |           |      | ✓   | ✓                    |

## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Current RPU Rate Offerings |                                        | Advantages                                                                                                   | Disadvantages                                                                                                                        | AMI Required/<br>Benefit |
|----------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1                          | Economic Development Rate              | May increase high load factor customers; may lower average costs                                             | Existing customers may not accept; not based on cost of service                                                                      |                          |
| 2                          | Electric Vehicle TOU Rate- Residential | Provides incentive for charging off-peak; may improve system and circuit load factor and lower average costs | Requires separate metering and special billing                                                                                       | ✓                        |
| 3                          | EV Public Charging Stations            | Provides utility owned EV public charging stations; justified based on cost of service                       | Administrative burden                                                                                                                | ✓                        |
| 4                          | Feed-In Tariff                         | Cost based method for promoting distributed generation                                                       | Customer confusion between net metering and FIT; customer may prefer long-term pricing                                               | ✓                        |
| 5                          | High Voltage Rates                     | Tracks costs for high voltage users; justified based on cost of service                                      | Administrative burden to identify customers qualifying for rate (This is less of an administrative burden than individual contracts) | ✓                        |

## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Current RPU Rate Offerings                      | Advantages                                                                          | Disadvantages                                                                          | AMI Required/<br>Benefit |
|-------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------|
| 6 Increased Fixed Charge                        | Recovers utility fixed costs; justified based on cost of service                    | Customer acceptance may be poor; impacts small users                                   |                          |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | Promotes distributed generation; helps meet California mandates                     | Does not recover fixed distribution costs                                              | ✓                        |
| 8 Network Access Charge                         | Recovers utility fixed costs; especially from low energy users or DER systems users | Adds complexity to bills with an additional bill item; customer acceptance may be poor | ✓                        |
| 9 Reliability Charge                            | Recovers utility fixed costs; debt service on internal generation and transmission  | Delay in transmission projects                                                         | ✓                        |
| 10 Seasonal Rates                               | Tracks costs by season                                                              | Adds complexity to bills                                                               |                          |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Current RPU Rate Offerings                     | Advantages                                                                                              | Disadvantages                                                                          | AMI Required/<br>Benefit |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------|
| 11 Medium and Large Commercial Demand Charge   | Recovers utility fixed costs; justified based on cost of service                                        | High charges for customers with poor load factors                                      | ✓                        |
| 12 Standby Charge                              | Recovers fixed distribution costs                                                                       | Adds complexity to bills; may discourage distributed generation; does not apply to NEM |                          |
| 13 Street Lighting LED Rates                   | Recovers cost by LED fixture type if energy is unmetered                                                | Administrative burden                                                                  |                          |
| 14 Tiered Rates                                | Recovers utility costs; can result in customer conservation                                             | Impacts large users; may produce revenue volatility                                    |                          |
| 15 TOU for Residential (Tiered and Non-Tiered) | Sends price signals to change customer behavior; may improve system load factor and lower average costs | Requires advanced metering and may not be understood by customers                      | ✓                        |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Current RPU Rate Offerings                 | Advantages                                                                                   | Disadvantages                                                     | AMI Required/<br>Benefit |
|--------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------|
| 16 TOU for Large Commercial and Industrial | Sends price signals to change customer behavior; may improve load factor of larger customers | Requires advanced metering and may not be understood by customers | ✓                        |
| 17 Voluntary Renewable Pricing             | Provides options for customers and utility to increase renewables                            | None                                                              |                          |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Not Currently Offered By RPU             | Advantages                                                                                                 | Disadvantages                                                                      | AMI Required/<br>Benefit |
|------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|
| 18 Small Residential Class               | Justified based on cost of service; provides utility and customers with more accurate usage information    | Requires separate metering and special billing; may not be understood by customers | ✓                        |
| 19 Residential Demand Charge             | Recovers utility fixed costs; justified based on cost of service                                           | Requires advanced metering; customer acceptance may be poor                        | ✓                        |
| 20 Small Commercial Demand Charge        | Recovers utility fixed costs; justified based on cost of service                                           | Requires advanced metering; customer acceptance may be poor                        | ✓                        |
| 21 TOU for Small & Medium Commercial     | Sends price signals to change customer behavior; may improve system load factor and lower average costs    | Requires advanced metering and may not be understood by customers                  | ✓                        |
| 22 Commercial and Industrial EV Charging | Provides incentive for charging off-peak; may improve system load factor; provides more public EV stations | Administrative burden                                                              | ✓                        |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Not Currently Offered By RPU              | Advantages                                                         | Disadvantages                                                                                                       | AMI Required/ Benefit |
|-------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|
| 23 Critical Peak Pricing                  | Cost based rate; may be advantageous for industrial customers      | Requires advanced metering, communications and billing systems                                                      | ✓                     |
| 24 Real-Time Pricing                      | Pure cost based rate; may be advantageous for industrial customers | Requires advanced metering, communications and billing systems                                                      | ✓                     |
| 25 Decoupling                             | Could improve fixed cost recovery                                  | Difficult to quantify and incorporate reserve balances. May require refund of overcollection of fixed cost recovery |                       |
| 26 Optional Rates with High Fixed Charges | Recovers utility fixed costs; offers bill certainty to customer    | Lower energy rates do not promote conservation with contradicts a CA state mandate                                  |                       |
| 27 Power Factor Charges                   | Tracks and allocates costs for low power factor users              | Administrative burden of metering and billing                                                                       | ✓                     |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Not Currently Offered By RPU                  | Advantages                                                               | Disadvantages                                                                          | AMI Required/ Benefit |
|-----------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|
| 28 Power Cost Adjustment                      | Recovers utility costs                                                   | Customer acceptance may be poor; adds complexity to bills                              |                       |
| 29 Regulatory Adjustment                      | Recovers utility costs                                                   | Adds complexity to bills                                                               |                       |
| 30 Special Rates/Charges (i.e. Wildfire Rate) | Recovers costs for unique situations outside the control of the utility. | Adds complexity to bills with an additional bill item; customer acceptance may be poor |                       |
| 31 Transmission Access Charge                 | Recover utility fixed costs for transmission assets                      | Adds complexity to bills with an additional bill item; customer acceptance may be poor |                       |
| 32 Unbundled Rates                            | Tracks costs by generation, transmission, and distribution               | Adds complexity to bills; customer acceptance may be poor                              |                       |



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## ADVANTAGES & DISADVANTAGES (TABLE A-2)

| Not Currently Offered By RPU |                                      | Advantages                                                        | Disadvantages                                                                            | AMI Provides Benefit |
|------------------------------|--------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| 33                           | Community Solar                      | Helps meet California mandates; may be better for utility than DG | Customer acceptance may not be as high as DG                                             | ✓                    |
| 34                           | Virtual / Aggregated Self-Generation | Promotes distributed generation and community causes              | Adds complexity to distributed generation customers' service, requires advanced metering | ✓                    |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Current RPU Rate Offerings |                                       | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|----------------------------|---------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 1                          | Economic Development Rate             | Some                              | May become more common             | May become more common             |
| 2                          | Electric Vehicle TOU Rate-Residential | Some                              | Likely more common                 | Likely more common                 |
| 3                          | EV Public Charging Stations           | Some                              | Likely more common                 | Likely more common                 |
| 4                          | Feed-In Tariff                        | Some                              | Likely more common                 | Likely more common                 |
| 5                          | High Voltage Rates                    | Common                            | Likely to remain common            | Likely to remain common            |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Current RPU Rate Offerings                      | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|-------------------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 6 Increased Fixed Charge                        | Not common                        | May become more common             | Likely to become more common       |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | Common                            | Likely common                      | Likely common                      |
| 8 Network Access Charge                         | Some                              | May become more common             | May become more common             |
| 9 Reliability Charge                            | Not common                        | May become more common             | May become more common             |
| 10 Seasonal Rates                               | Common                            | Likely common                      | Likely common                      |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Current RPU Rate Offerings                     | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|------------------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 11 Medium and Large Commercial Demand Charge   | Common                            | Likely more common                 | Likely more common                 |
| 12 Standby Charge                              | Some                              | May become more common             | Likely more common                 |
| 13 Street Lighting LED Rates                   | Some                              | Likely to remain common            | Likely to remain common            |
| 14 Tiered Rates                                | Common                            | May become less common             | Likely less common                 |
| 15 TOU for Residential (Tiered and Non-Tiered) | Pilot programs are common         | Likely more common                 | Likely more common                 |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Current RPU Rate Offerings |                                         | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|----------------------------|-----------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 16                         | TOU for Large Commercial and Industrial | Common                            | Likely to remain common            | Likely to remain common            |
| 17                         | Voluntary Renewable Pricing             | Some                              | Likely to become more common       | Likely to become more common       |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Not Currently Offered By RPU |                                       | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|------------------------------|---------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 18                           | Small Residential Class               | Not common                        | Unlikely common                    | Potentially common                 |
| 19                           | Residential Demand Charge             | Not common                        | Unlikely common                    | May become more common             |
| 20                           | Small Commercial Demand Charge        | Not common                        | Unlikely common                    | May become more common             |
| 21                           | TOU for Small & Medium Commercial     | Some                              | Likely more common                 | Likely more common                 |
| 22                           | Commercial and Industrial EV Charging | Some                              | Likely more common                 | Likely more common                 |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Not Currently Offered By RPU |                                        | Short-Term (1 Year)<br>Consideration | Mid-Term (2-5 Years)<br>Consideration | Long-Term (>5 Years)<br>Consideration |
|------------------------------|----------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
| 23                           | Critical Peak Pricing                  | Not common utility practice          | Unlikely to become common             | May become more common                |
| 24                           | Real-Time Pricing                      | Not common utility practice          | Unlikely to become common             | May become more common                |
| 25                           | Decoupling                             | Not common utility practice          | Unlikely to become common             | Unlikely to become common             |
| 26                           | Optional Rates with High Fixed Charges | Not common utility practice          | Unlikely to become common             | Unlikely to become common             |
| 27                           | Power Factor Charges                   | Practice of some utilities           | Unlikely to become common             | May become more common                |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Not Currently Offered By RPU |                                            | Short-Term (1 Year)<br>Consideration | Mid-Term (2-5 Years)<br>Consideration | Long-Term (>5 Years)<br>Consideration |
|------------------------------|--------------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
| 28                           | Power Cost Adjustment                      | Practice of some                     | May become more common                | May become more common                |
| 29                           | Regulatory Adjustment                      | Practice of some                     | May become more common                | May become more common                |
| 30                           | Special Rates/Charges (i.e. Wildfire Rate) | Not common                           | Unlikely to become common             | Unlikely to become common             |
| 31                           | Transmission Access Charge                 | Not common                           | Unlikely to become common             | Unlikely to become common             |
| 32                           | Unbundled Rates                            | Not common                           | Unlikely to become common             | Unlikely to become common             |



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## UTILITY INDUSTRY CONSIDERATIONS (TABLE A-3)

| Not Currently Offered By RPU |                                      | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|------------------------------|--------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| 33                           | Community Solar                      | Not common                        | May become more common             | Likely more common                 |
| 34                           | Virtual / Aggregated Self-Generation | Not common                        | May become more common             | Likely more common                 |



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## RATE STRUCTURE RANKINGS (TABLE A-4)

| Current RPU Rate Offerings                      | Customer Acceptance | Change in Customer Usage | Technology Required | Customer Costs of Technology | Utility Costs of Technology | Barriers to New Rates | Risks Utility Perspective | Costs and Benefits Utility Perspective | Costs and Benefits Customer Perspective |
|-------------------------------------------------|---------------------|--------------------------|---------------------|------------------------------|-----------------------------|-----------------------|---------------------------|----------------------------------------|-----------------------------------------|
| 1 Economic Development Rate                     | 2                   | 3                        | 3                   | 3                            | 3                           | 3                     | 2                         | 2                                      | 3                                       |
| 2 Electric Vehicle TOU Rate- Residential        | 3                   | 3                        | 2                   | 1                            | 2                           | 3                     | 3                         | 3                                      | 2                                       |
| 3 EV Public Charging Stations                   | 2                   | 2                        | 2                   | 3                            | 1                           | 3                     | 2                         | 2                                      | 3                                       |
| 4 Feed-In Tariff                                | 2                   | 2                        | 2                   | 2                            | 1                           | 2                     | 2                         | 2                                      | 2                                       |
| 5 High Voltage Rates                            | 2                   | 3                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 2                                       |
| 6 Increased Fixed Charge                        | 1                   | 2                        | 3                   | 3                            | 3                           | 2                     | 3                         | 3                                      | 2                                       |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | 3                   | 3                        | 2                   | 2                            | 1                           | 2                     | 2                         | 2                                      | 3                                       |
| 8 Network Access Charge                         | 2                   | 2                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 2                                       |
| 9 Reliability Charge                            | 2                   | 2                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 10 Seasonal Rates                               | 3                   | 2                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 2                                       |
| 11 Medium and Large Commercial Demand Charge    | 1                   | 3                        | 2                   | 2                            | 2                           | 2                     | 2                         | 2                                      | 2                                       |
| 12 Standby Charge                               | 2                   | 3                        | 3                   | 3                            | 2                           | 2                     | 3                         | 2                                      | 3                                       |
| 13 Street Lighting LED Rates                    | 3                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 14 Tiered Rates                                 | 2                   | 3                        | 3                   | 3                            | 3                           | 2                     | 2                         | 3                                      | 2                                       |
| 15 TOU for Residential (Tiered and Non-Tiered)  | 3                   | 3                        | 2                   | 3                            | 1                           | 2                     | 2                         | 2                                      | 3                                       |
| 16 TOU for Large Commercial and Industrial      | 3                   | 3                        | 2                   | 3                            | 1                           | 2                     | 2                         | 3                                      | 2                                       |
| 17 Voluntary Renewable Pricing                  | 3                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 2                                       |



3 = Desirable  
2 = Moderate  
1 = Not Desirable

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## RATE STRUCTURE RANKINGS (TABLE A-4)

| Current RPU Rate Offerings                      | Cumulative Score | Average Score |
|-------------------------------------------------|------------------|---------------|
| 1 Economic Development Rate                     | 24               | 2.67          |
| 2 Electric Vehicle TOU Rate- Residential        | 22               | 2.44          |
| 3 EV Public Charging Stations                   | 20               | 2.22          |
| 4 Feed-In Tariff                                | 17               | 1.89          |
| 5 High Voltage Rates                            | 25               | 2.78          |
| 6 Increased Fixed Charge                        | 22               | 2.44          |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | 20               | 2.22          |
| 8 Network Access Charge                         | 24               | 2.67          |
| 9 Reliability Charge                            | 23               | 2.56          |
| 10 Seasonal Rates                               | 25               | 2.78          |
| 11 Medium and Large Commercial Demand Charge    | 18               | 2.00          |
| 12 Standby Charge                               | 23               | 2.56          |
| 13 Street Lighting LED Rates                    | 23               | 2.56          |
| 14 Tiered Rates                                 | 23               | 2.56          |
| 15 TOU for Residential (Tiered and Non-Tiered)  | 21               | 2.33          |
| 16 TOU for Large Commercial and Industrial      | 21               | 2.33          |
| 17 Voluntary Renewable Pricing                  | 24               | 2.67          |

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## RATE STRUCTURE RANKINGS (TABLE A-4)

| Not Currently Offered by RPU                  | Customer Acceptance | Change in Customer Usage | Technology Required | Customer Costs of Technology | Utility Costs of Technology | Barriers to New Rates | Risks Utility Perspective | Costs and Benefits Utility Perspective | Costs and Benefits Customer Perspective |
|-----------------------------------------------|---------------------|--------------------------|---------------------|------------------------------|-----------------------------|-----------------------|---------------------------|----------------------------------------|-----------------------------------------|
| 18 Small Residential Class                    | 2                   | 1                        | 2                   | 3                            | 2                           | 2                     | 2                         | 2                                      | 2                                       |
| 19 Residential Demand Charge                  | 1                   | 3                        | 2                   | 1                            | 2                           | 1                     | 1                         | 2                                      | 2                                       |
| 20 Small Commercial Demand Charge             | 1                   | 3                        | 2                   | 2                            | 2                           | 2                     | 2                         | 2                                      | 2                                       |
| 21 TOU for Small & Medium Commercial          | 2                   | 3                        | 2                   | 3                            | 1                           | 2                     | 2                         | 2                                      | 3                                       |
| 22 Commercial and Industrial EV Charging      | 3                   | 2                        | 1                   | 1                            | 2                           | 2                     | 3                         | 2                                      | 1                                       |
| 23 Critical Peak Pricing                      | 1                   | 3                        | 1                   | 3                            | 1                           | 1                     | 2                         | 1                                      | 1                                       |
| 24 Real-Time Pricing                          | 1                   | 3                        | 1                   | 3                            | 1                           | 1                     | 2                         | 1                                      | 1                                       |
| 25 Decoupling                                 | 2                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 26 Optional Rates with High Fixed Charges     | 3                   | 2                        | 2                   | 2                            | 3                           | 2                     | 2                         | 3                                      | 2                                       |
| 27 Power Factor Charges                       | 3                   | 3                        | 1                   | 3                            | 1                           | 2                     | 3                         | 3                                      | 2                                       |
| 28 Power Cost Adjustment                      | 2                   | 2                        | 2                   | 2                            | 2                           | 2                     | 3                         | 2                                      | 2                                       |
| 29 Regulatory Adjustment                      | 2                   | 2                        | 1                   | 2                            | 2                           | 2                     | 3                         | 2                                      | 2                                       |
| 30 Special Rates/Charges (i.e. Wildfire Rate) | 1                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 31 Transmission Access Charge                 | 1                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 32 Unbundled Rates                            | 2                   | 1                        | 3                   | 3                            | 3                           | 3                     | 3                         | 3                                      | 1                                       |
| 33 Community Solar                            | 3                   | 1                        | 2                   | 3                            | 1                           | 3                     | 3                         | 3                                      | 2                                       |
| 34 Virtual / Aggregated Self-Generation       | 3                   | 2                        | 2                   | 3                            | 1                           | 2                     | 2                         | 1                                      | 3                                       |

3 = Desirable  
2 = Moderate  
1 = Not Desirable

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## RATE STRUCTURE RANKINGS (TABLE A-4)

| Not Currently Offered by RPU                  | Cumulative Score | Average Score |
|-----------------------------------------------|------------------|---------------|
| 18 Small Residential Class                    | 18               | 2.00          |
| 19 Residential Demand Charge                  | 15               | 1.67          |
| 20 Small Commercial Demand Charge             | 18               | 2.00          |
| 21 TOU for Small & Medium Commercial          | 20               | 2.33          |
| 22 Commercial and Industrial EV Charging      | 17               | 1.89          |
| 23 Critical Peak Pricing                      | 14               | 1.56          |
| 24 Real-Time Pricing                          | 14               | 1.56          |
| 25 Decoupling                                 | 22               | 2.44          |
| 26 Optional Rates with High Fixed Charges     | 21               | 2.33          |
| 27 Power Factor Charges                       | 21               | 2.33          |
| 28 Power Cost Adjustment                      | 19               | 2.11          |
| 29 Regulatory Adjustment                      | 18               | 2.00          |
| 30 Special Rates/Charges (i.e. Wildfire Rate) | 21               | 2.33          |
| 31 Transmission Access Charge                 | 21               | 2.33          |
| 32 Unbundled Rates                            | 22               | 2.44          |
| 33 Community Solar                            | 21               | 2.33          |
| 34 Virtual / Aggregated Self-Generation       | 19               | 2.11          |

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## SUMMARY OF RECOMMENDATIONS (A-5)

| Current RPU Rate Offerings              | Short-Term (1 Year) Consideration      | Mid-Term (2-5 Years) Consideration     | Long-Term (>5 Years) Consideration     |
|-----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 1 Economic Development Rate             | Continue/monitor                       | Continue/monitor                       | Continue/monitor                       |
| 2 Electric Vehicle TOU Rate-Residential | Continue/monitor                       | Continue/monitor                       | Continue/monitor                       |
| 3 EV Public Charging Stations           | Continue/modify as necessary           | Continue/modify as necessary           | Continue/modify as necessary           |
| 4 Feed-In Tariff                        | Continue/monitor mandates/ regulations | Continue/monitor mandates/ regulations | Continue/monitor mandates/ regulations |
| 5 High Voltage Rates                    | Continue/monitor                       | Continue/monitor                       | Continue/monitor                       |



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## SUMMARY OF RECOMMENDATIONS (A-5)

| Current RPU Rate Offerings                      | Short-Term (1 Year) Consideration               | Mid-Term (2-5 Years) Consideration     | Long-Term (>5 Years) Consideration     |
|-------------------------------------------------|-------------------------------------------------|----------------------------------------|----------------------------------------|
| 6 Increased Fixed Charge                        | Continue COS fixed charges/ customer acceptance | Continue tracking with COS/ monitor    | Continue tracking with COS/ monitor    |
| 7 Net Metering Rate / Self-Generation / NEM 2.0 | Continue/monitor mandates/ regulations          | Continue/monitor mandates/ regulations | Continue/monitor mandates/ regulations |
| 8 Network Access Charge                         | Continue/monitor                                | Continue/monitor                       | Continue/monitor                       |
| 9 Reliability Charge                            | Continue                                        | Continue                               | Continue                               |
| 10 Seasonal Rates                               | Continue                                        | Continue                               | Continue                               |



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## SUMMARY OF RECOMMENDATIONS (A-5)

| Current RPU Rate Offerings                     | Short-Term (1 Year) Consideration  | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 11 Medium and Large Commercial Demand Charge   | Continue                           | Continue                           | Continue                           |
| 12 Standby Charge                              | Continue                           | Continue                           | Continue                           |
| 13 Street Lighting LED Rates                   | Modify as needed                   | Modify as needed                   | Modify as needed                   |
| 14 Tiered Rates                                | Evaluate/consider collapsing tiers | Evaluate/consider TOU              | Evaluate/consider TOU              |
| 15 TOU for Residential (Tiered and Non-Tiered) | Revise as necessary/monitor        | Revise/consider as default         | Revise/consider as default         |



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## SUMMARY OF RECOMMENDATIONS (A-5)

| Current RPU Rate Offerings |                                         | Short-Term (1 Year)<br>Consideration | Mid-Term (2-5 Years)<br>Consideration | Long-Term (>5 Years)<br>Consideration |
|----------------------------|-----------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
| 16                         | TOU for Large Commercial and Industrial | Continue                             | Continue                              | Continue                              |
| 17                         | Voluntary Renewable Pricing             | Continue/monitor                     | Continue/monitor                      | Continue/monitor                      |



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## SUMMARY OF RECOMMENDATIONS (TABLE A-5)

| Not Currently Offered By RPU |                                       | Short-Term (1 Year)<br>Consideration | Mid-Term (2-5 Years)<br>Consideration   | Long-Term (>5 Years)<br>Consideration   |
|------------------------------|---------------------------------------|--------------------------------------|-----------------------------------------|-----------------------------------------|
| 18                           | Small Residential Class               | Consider implementation/<br>monitor  | Consider implementation/<br>monitor     | Consider implementation/<br>monitor     |
| 19                           | Residential Demand Charge             | Continue/monitor                     | Continue/monitor                        | Continue/monitor                        |
| 20                           | Small Commercial Demand Charge        | Continue/monitor                     | Consider as a pilot program/<br>monitor | Consider as a pilot program/<br>monitor |
| 21                           | TOU for Small & Medium Commercial     | Revise as necessary/<br>monitor      | Revise as necessary/<br>monitor         | Revise as necessary/<br>monitor         |
| 22                           | Commercial and Industrial EV Charging | Implement/monitor                    | Continue/monitor                        | Continue/monitor                        |



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## SUMMARY OF RECOMMENDATIONS (TABLE A-5)

| Not Currently Offered By RPU              | Short-Term (1 Year) Consideration | Mid-Term (2-5 Years) Consideration  | Long-Term (>5 Years) Consideration  |
|-------------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| 23 Critical Peak Pricing                  | Do not implement/monitor          | Do not implement/monitor            | Do not implement/monitor            |
| 24 Real-Time Pricing                      | Do not implement/monitor          | Do not implement/monitor            | Do not implement/monitor            |
| 25 Decoupling                             | Do not implement/monitor          | Do not implement/monitor            | Do not implement/monitor            |
| 26 Optional Rates with High Fixed Charges | Continue current practice/monitor | Consider as a pilot program/monitor | Consider as a pilot program/monitor |
| 27 Power Factor Charges                   | Do not implement/monitor          | Do not implement/monitor            | Do not implement/monitor            |



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## SUMMARY OF RECOMMENDATIONS (A-5)

| Not Currently Offered By RPU                  | Short-Term (1 Year) Consideration                                | Mid-Term (2-5 Years) Consideration                               | Long-Term (>5 Years) Consideration                               |
|-----------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| 28 Power Cost Adjustment                      | Do not implement/monitor exposure to fluctuations in power costs | Do not implement/monitor exposure to fluctuations in power costs | Do not implement/monitor exposure to fluctuations in power costs |
| 29 Regulatory Adjustment                      | Do not implement/monitor regulatory costs                        | Do not implement/monitor regulatory costs                        | Do not implement/monitor regulatory costs                        |
| 30 Special Rates/Charges (i.e. Wildfire Rate) | Do not implement/monitor regulations/mandates                    | Monitor regulations/mandates                                     | Monitor regulations/mandates                                     |
| 31 Transmission Access Charge                 | Do not implement/monitor                                         | Consider implementing pilot program/monitor                      | Consider implementing pilot program/monitor                      |
| 32 Unbundled Rates                            | Do not implement/consider educating customers                    | Do not implement/consider educating customers                    | Do not implement/consider educating customers                    |



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## SUMMARY OF RECOMMENDATIONS (A-5)

| Not Currently Offered By RPU |                                    | Short-Term (1 Year) Consideration              | Mid-Term (2-5 Years) Consideration | Long-Term (>5 Years) Consideration |
|------------------------------|------------------------------------|------------------------------------------------|------------------------------------|------------------------------------|
| 33                           | Community Solar                    | Investigate potential community solar projects | Monitor community interest         | Monitor community interest         |
| 34                           | Virtual/Aggregated Self-Generation | Investigate potential aggregated programs      | Continue investigating/monitor     | Monitor/consider pilot program     |



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## GENERAL RECOMMENDATIONS

1. Continue current practices, monitor, updating based on COS
  - a. Seasonal rates
  - b. Economic development rates
  - c. Stand-by Charge
  - d. TOU rates
2. EV Charging Rates
  - a. Continue domestic charging
  - b. Implement commercial/public charging stations
  - c. Monitor other utilities' practice, regulations, mandates



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## GENERAL RECOMMENDATIONS

3. Continue fixed cost recovery
  - a. Reliability Charge
  - b. Network Access Charge
4. Implement Self-Generation Program
  - a. Close Net Energy Metering Program
  - b. Continuing Feed-in Tariff
  - c. Analyze/modify as necessary community solar/ aggregation programs
  - d. Analyze/modify with state mandates



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## GENERAL RECOMMENDATIONS

5. Not proposed for this study
  - a. Residential Demand Charges
  - b. Real-Time/Critical Peak Pricing
  - c. Rate adjustment mechanisms
    - I. Power Cost Adjustment
    - II. Regulatory Cost Adjustment
    - III. Decoupling
6. Discontinue Power Cost Adjustment Factor (PCAF)
  - a. Structure is out of date
  - b. Not implemented for many years



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## GENERAL RECOMMENDATIONS

7. Consider collapsing existing tiers
  - a. Transition to TOU
8. Explore small domestic rate
  - a. Individually metered apartments/condos
  - b. equitably recover customer costs



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## PROJECT STATUS

| Electric Cost-Of-Service and Rate Design Project | Status                                   |
|--------------------------------------------------|------------------------------------------|
| Phases I- Cost of Service Analysis               | Underway                                 |
| Phases II- Electric Rate Trends Study            | Draft                                    |
| Phases III- Rate Design Recommendation           | Following Phase I and II                 |
| Phase IV- Customer Impact Rate Design Model      | With Phase III, Following Phase I and II |
| Phase V- Self-Generation Program Review          | Draft                                    |



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## STRATEGIC PLAN ALIGNMENT



### **Strategic Priority 6** - Infrastructure, Mobility & Connectivity

**Goal 6.2** - maintain, protect and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity

### Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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## RECOMMENDATION

That the Customer Relations/Finance Committee receive an update and provide feedback on the Electric Rate Trends Study.



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