

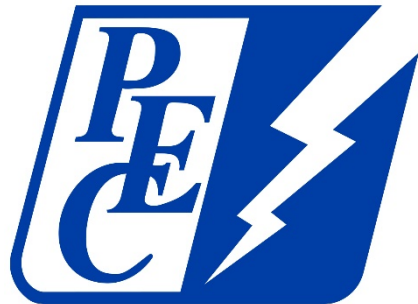
UPDATE: On July 16, 2021, the PEC Board of Directors voted to not make the proposed rate changes explained in this power point presentation. As a result, the proposed interconnect rate changes will NOT take effect January 1, 2022.

The Board of Directors also directed staff to use member provided feedback to bring a new recommendation that will accomplish the following:

- Ensure that the PEC distribution systems costs are paid for in a manner that is equitable to all members; and
- Ensure the interconnect energy buy-back rate is equitable, properly values surplus generation, and is transparent for all members

For more information, please read the press release: [PEC seeks fair rates for all members.](#)

Staff will present the new proposal as part of the 2022 Rate Plan, which will be presented to the Board for approval at the November Board meeting.



Interconnected Generation Proposed Rates - Billing Examples

Natalia Mack | Rates Manager

David L. Thompson | VP of Markets

Interconnected Generation Proposed Rate Changes

Current: Net Metering Rate for Residential

- Service Availability Charge \$22.50 per month
- Delivery Charge (Distribution) \$0.02712/kWh
- Transmission Cost of Service Charge \$0.01356/kWh
- Base Power Charge, Flat \$0.04450/kWh
- Net Metering Credit, Flat - \$0.04450/kWh

Proposed Rates: Net Billing Rate for Residential (Proposed - Starting January 1, 2022)

- Service Availability Charge \$22.50 per month
- Peak Demand Charge (Distribution) \$5.15/kW
- Transmission Cost of Service Charge/Credit ~ \$5.00/kW¹
- Base Power Charge, Time-of-Use Varies per TOU/kWh
- Base Power Energy Credit, Time-of-Use Varies per TOU/kWh

¹ Estimated amount. Amount varies per month based on PUCT rate.



Interconnected Generation Proposed Rate Changes

How would I be billed under the Proposed Rates?

Service Availability Charge – Used to recover Fixed Costs

- Change: None
- Monthly charge of \$22.50 per meter
- Billing discounts available to reduce charge
 - EBilling (paperless billing) – \$1.00 credit
 - EDraft (automatic bank draft) – \$1.50 credit
 - Both billing discounts can be combined – \$2.50 credit

Interconnected Generation Proposed Rate Changes

How would I be billed under the Proposed Rates?

Peak Demand Charge – Used to recover electric distribution costs

❑ Change: Replaces Delivery Charge - (kWh)

❑ Charge calculated as follows:

$$\text{Peak Demand Charge} = \$5.15/\text{kW} \times \text{Peak Demand}$$

Amount: \$5.15 per kW

Peak Demand: the hour with highest usage during billing month's peak and super-peak time TOU periods. For example, if the 5 PM hour has the highest usage:

Time stamp of meter readings (in 15 min intervals)	Usage (kWh)
2020-01-01 05:01 PM to 2020-01-01 05:15 PM	1.9160
2020-01-01 05:16 PM to 2020-01-01 05:30 PM	1.2577
2020-01-01 05:31 PM to 2020-01-01 05:45 PM	0.7717
2020-01-01 05:46 PM to 2020-01-01 06:00 PM	0.0348
Sum usage (kWh) over one hour = demand (kW) for that hour	3.9802

= Peak Demand Charge

= \$5.15/kW X 3.98 KW

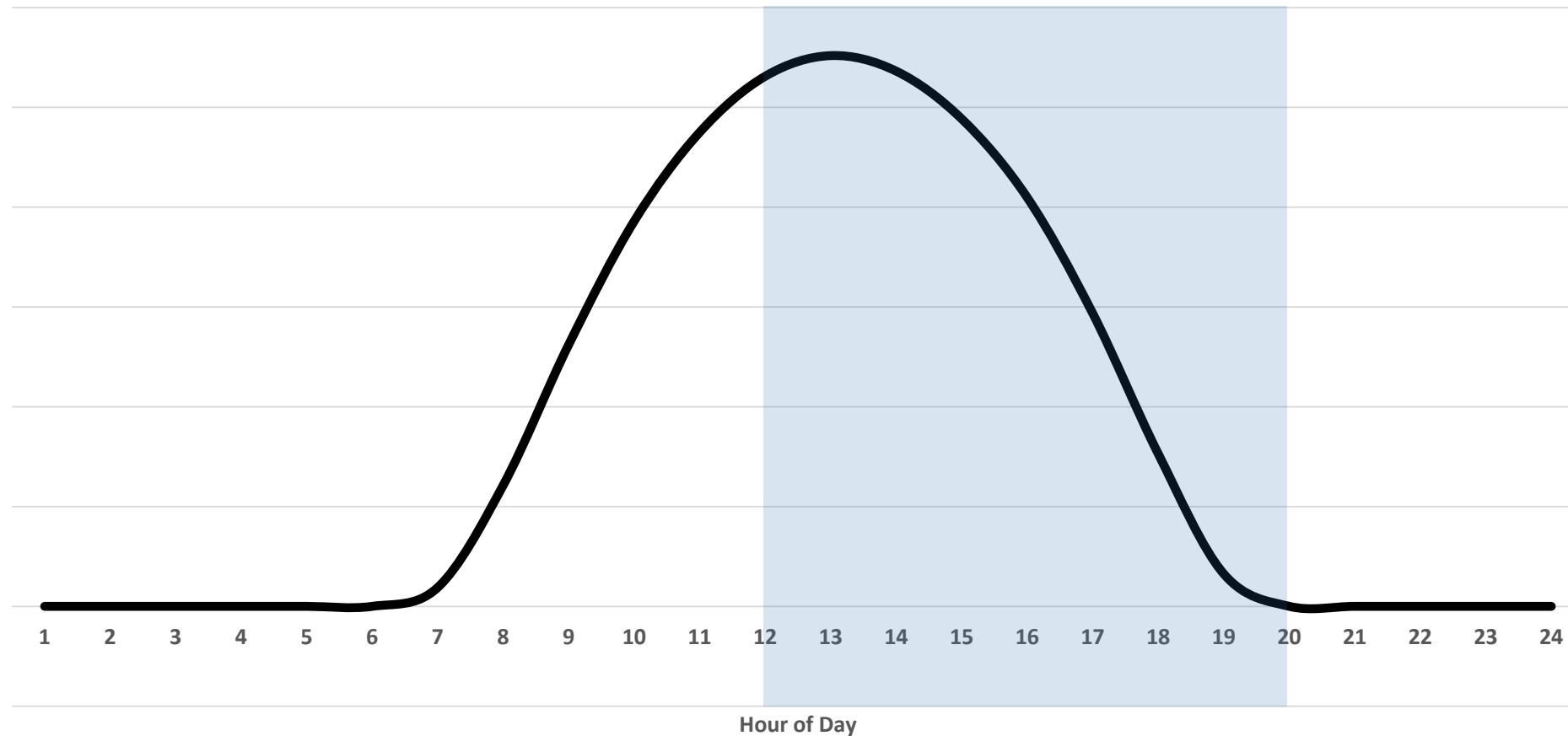
= \$20.50

Interconnected Generation Proposed Rate Changes

Peak Demand Charge:

Sample solar shape day: summer

Hours of day during which the highest usage will set the Peak Demand (12:01 pm to 8:00 pm)

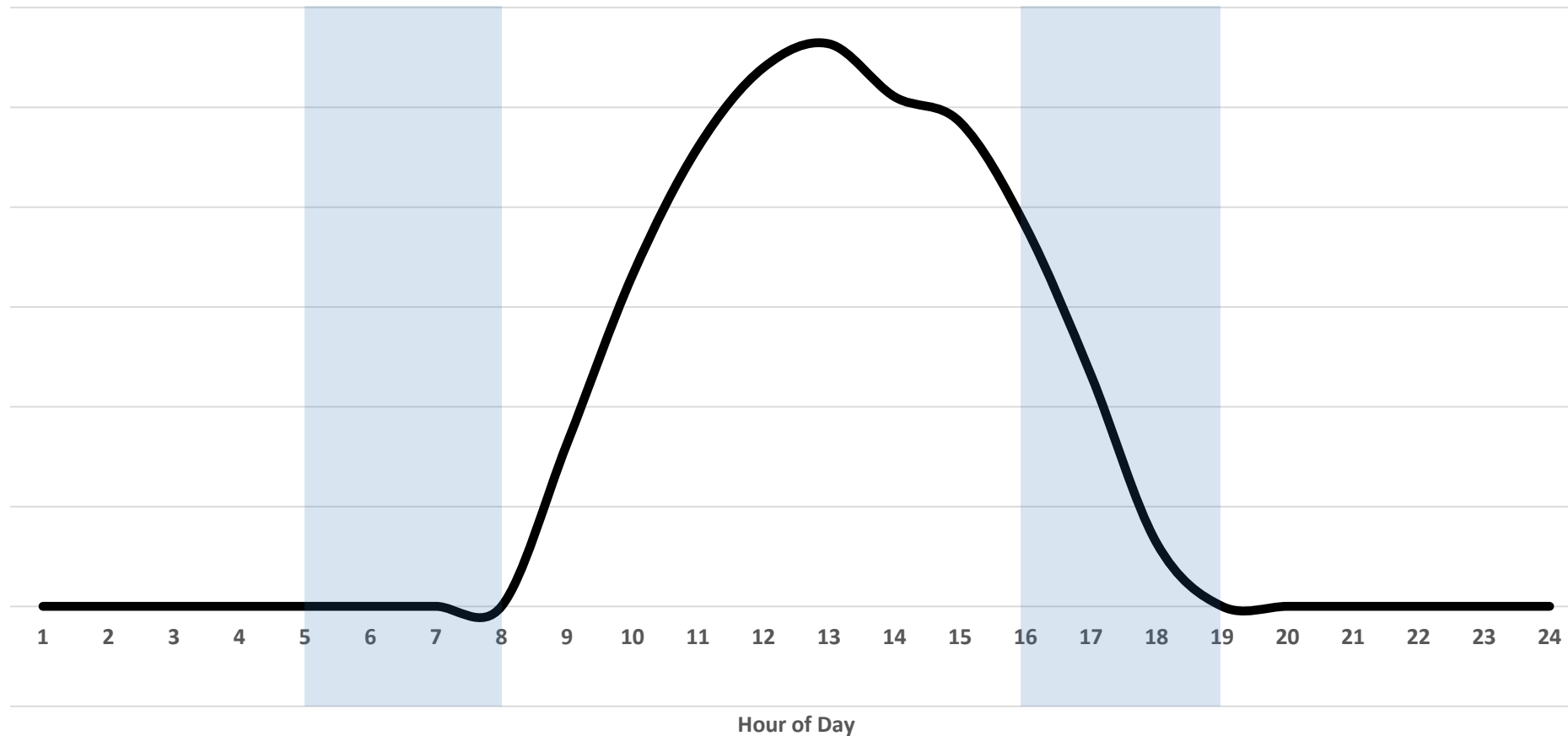


Interconnected Generation Proposed Rate Changes

Peak Demand Charge:

Sample solar shape day: non-summer

Hours of day during which the highest usage will set the Peak Demand (from 5:01 am to 8:00 am and from 4:01 pm to 7:00 pm)



Interconnected Generation Proposed Rate Changes

How would I be billed under the Proposed Rates?

Time-of-Use (TOU) Base Power Charge – Used to recover cost of power purchased on behalf of members

- ❑ Change: Replaces Flat Base Power Charge
- ❑ Energy consumption charged in the appropriate TOU time period
- ❑ Charges will be calculated as follows:

$$\text{Base Power Charges} = \text{TOU (\$/kWh)} \times \text{Energy Delivered}$$

Amount: varies per TOU time period

Energy Delivered: total sum of Energy Received (kWh) during billing month's time TOU periods

See next slides for details

Interconnected Generation Proposed Rate Changes

Base Power Energy Charge

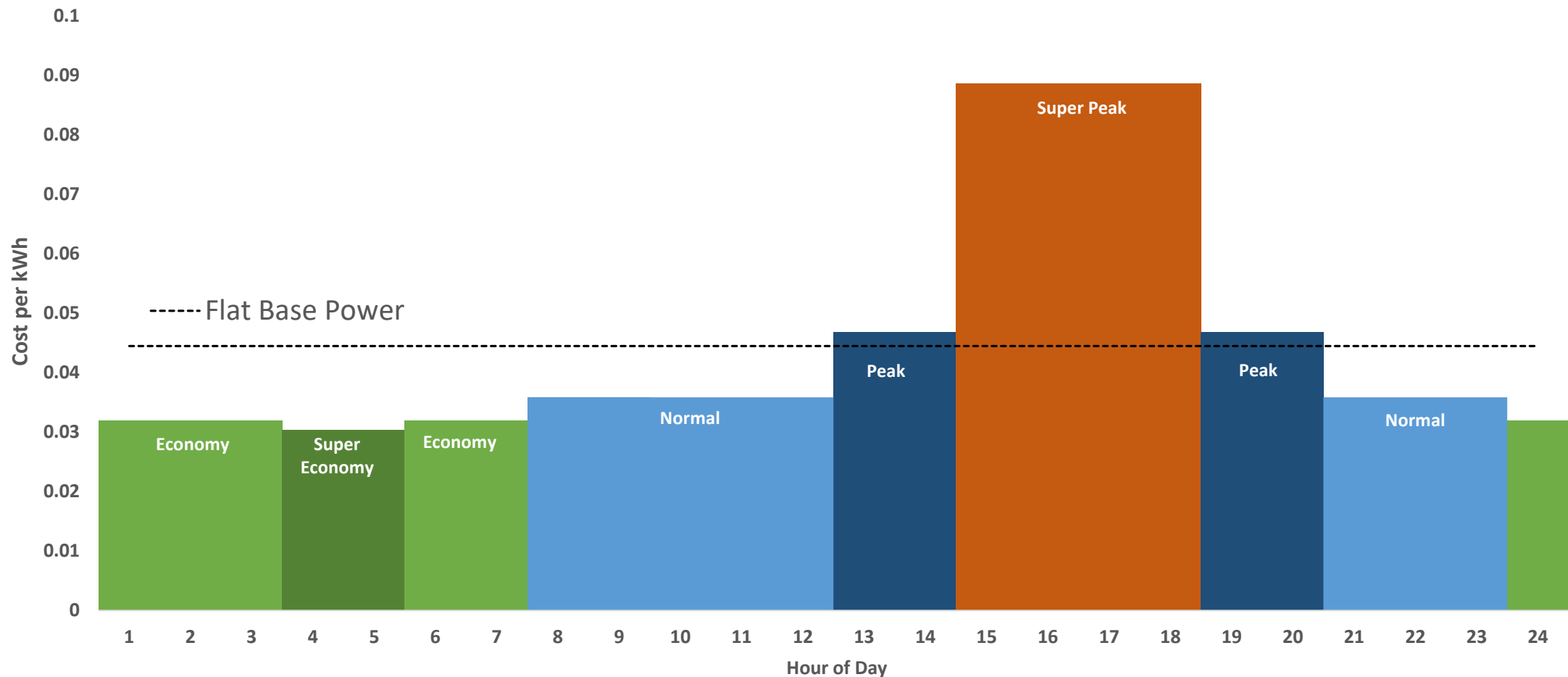
		A		B		= A x B		
Season	Time of Use Period	Amount, \$/kWh		Bill Period Energy Delivered, kWh	Charge, \$			
Non-Summer (Jan. – May and Oct. – Dec.)	Super Economy	2:01 am – 4:00 am	\$0.030616	X				
	Economy	11:01 pm – 2:00 am	\$0.037529	X				
		4:01 am – 5:00 am						
	Normal	8:01 am – 4:00 pm	\$0.042449	X				
		7:01 pm – 11:00 pm						
	Peak	5:01 am – 8:00 am	\$0.045680	X				
4:01 pm – 7:00 pm								
Summer (Jun. – Sep.)	Super Economy	3:01 am – 5:00 am	\$0.030398	X				
	Economy	11:01 pm – 3:00 am	\$0.031940	X				
		5:01 am – 7:00 am						
	Normal	7:01 am – 12:00 pm	\$0.035883	X				
		8:01 pm – 11:00 pm						
	Peak	12:01 pm – 2:00 pm	\$0.046863	X				
6:01 pm – 8:00 pm								
Super Peak	2:01 pm – 6:00 pm	\$0.088620	X					
						Sum Charges, \$		

- For more information please see Tariff section 500.1.8.2 TIME-OF-USE BASE POWER CHARGE

Interconnected Generation Proposed Rate Changes

Time-of-Use Base Power Charge

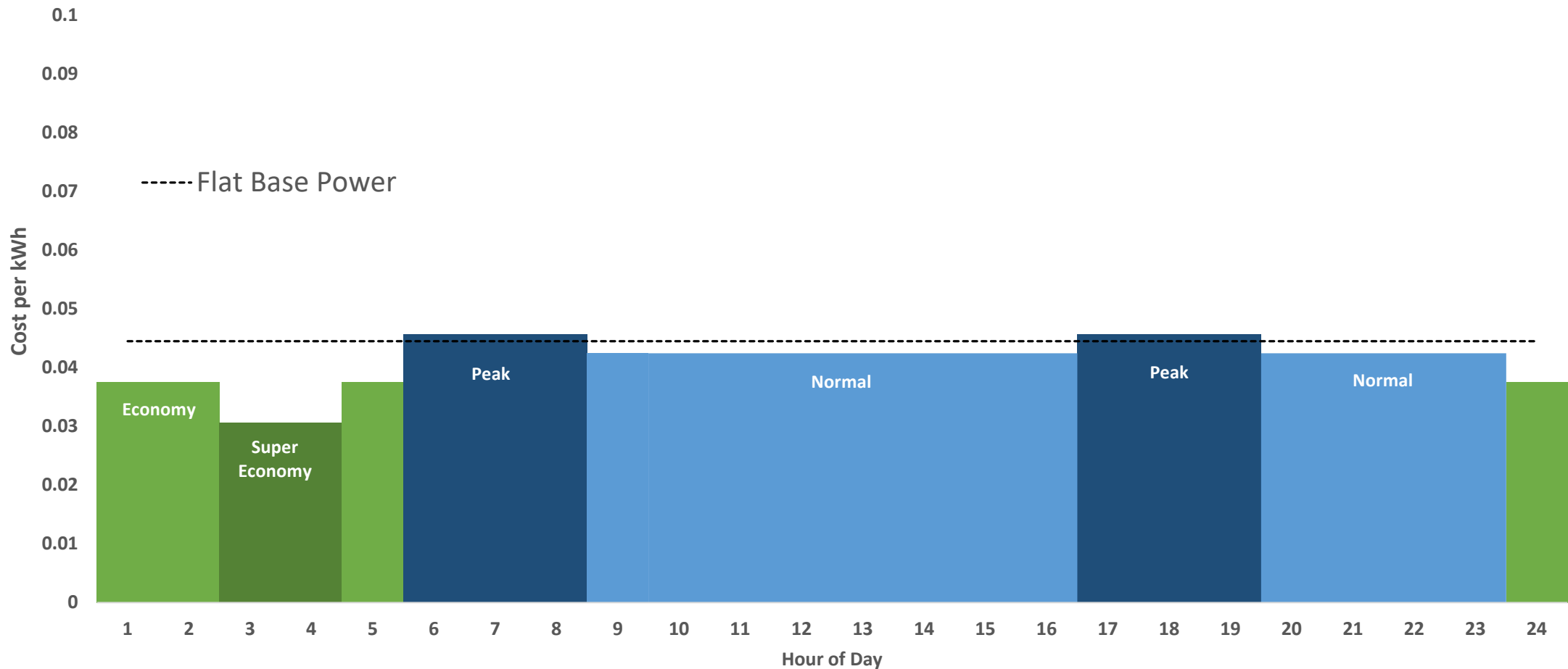
Sample solar shape day: summer



Interconnected Generation Proposed Rate Changes

Time-of-Use Base Power Charge

Sample solar shape day: non-summer



Interconnected Generation Proposed Rate Changes

How would I be billed under the Proposed Rates?

Time-of-Use Base Power Energy Credit – Used to compensate for member's excess generation

- ❑ Change: Replaces Net Energy Credit (Flat kWh) with TOU kWh credit
- ❑ Energy Received credited in the appropriate TOU time period
- ❑ Charges will be calculated as follows:

$$\text{Base Power Charges} = \text{TOU (\$/kWh)} \times \text{Energy Delivered}$$

Amount: varies per TOU time period

Energy Received: total sum of Energy Delivered (kWh) during billing month's time TOU periods

See next slides for details

Interconnected Generation Proposed Rate Changes

Base Power Energy Credit

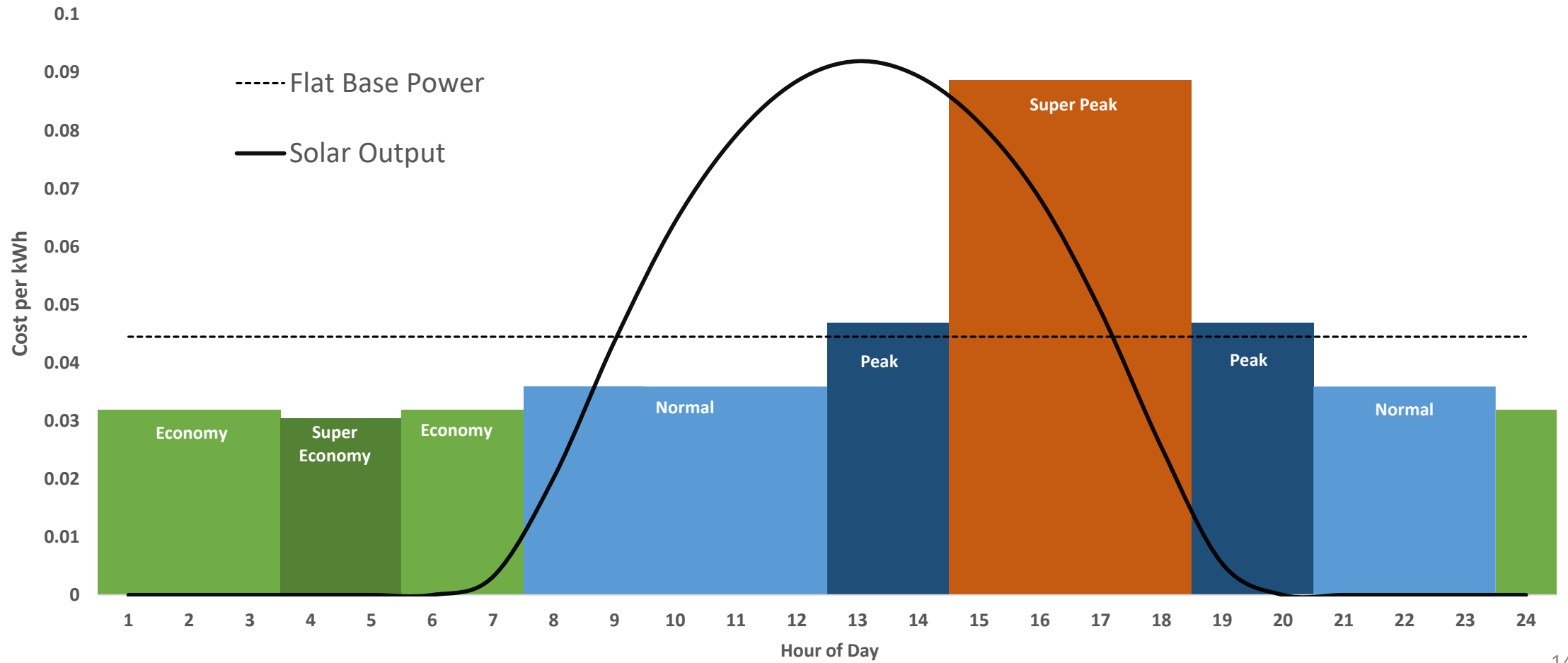
Season	Time of Use Period		A	X	B	= A x B
			Amount, \$/kWh		Bill Period Energy Received, kWh	Credit, \$
Non-Summer (Jan. – May and Oct. – Dec.)	Super Economy	2:01 am – 4:00 am	-\$0.030616	X		
	Economy	11:01 pm – 2:00 am	-\$0.037529	X		
		4:01 am – 5:00 am				
	Normal	8:01 am – 4:00 pm	-\$0.042449	X		
		7:01 pm – 11:00 pm				
	Peak	5:01 am – 8:00 am	-\$0.045680	X		
4:01 pm – 7:00 pm						
Summer (Jun. – Sep.)	Super Economy	3:01 am – 5:00 am	-\$0.030398	X		
	Economy	11:01 pm – 3:00 am	-\$0.031940	X		
		5:01 am – 7:00 am				
	Normal	7:01 am – 12:00 pm	-\$0.035883	X		
		8:01pm – 11:00 pm				
	Peak	12:01 pm – 2:00 pm	-\$0.046863	X		
6:01 pm – 8:00 pm						
Super Peak	2:01 pm – 6:00 pm	-\$0.088620	X			
						Sum Credits, \$

- For more information please see Tariff section 500.1.13 BASE POWER ENERGY CREDIT

Interconnected Generation Proposed Rate Changes

Time-of-Use Base Power Energy Credit

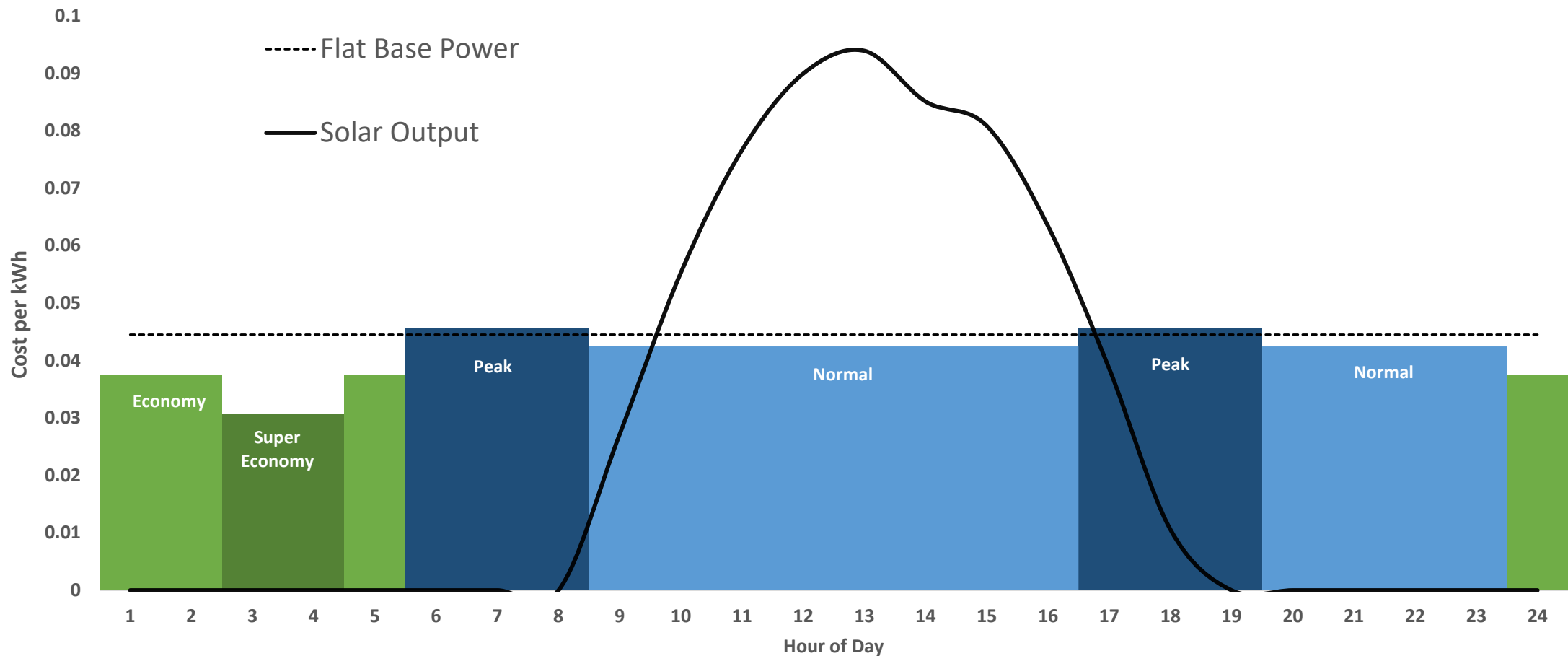
Sample solar shape day: summer



Interconnected Generation Proposed Rate Changes

Time-of-Use Base Power Energy Credit

Sample solar shape day: non-summer



Interconnected Generation Proposed Rate Changes

How would I be billed under the Proposed Rates?

Transmission Cost of Service (TCOS) Charge/Credit – Used to recover cost or compensate member for avoided cost for transmission access

Change: The charge will be recovered on a demand basis, rather than energy and may be a credit.

Charge calculated as follows:

Transmission Cost of Service Charges/Credit = ~ \$5.00/kW X 4CP Demand

Amount: ~\$5.00 (varies monthly depending on actual TCOS rate)

4CP Demand: the member's average demand during the 15-minute intervals for each of the months of June, July, August and September during which the ERCOT system peaks, also known as the four coincidental peaks (4CP).

See next slides for details

Interconnected Generation Proposed Rate Changes

Transmission Cost of Service (TCOS) Charge or Credit

Sample scenario of TCOS Charge

If the member is consuming during the 4CP times, and on average, the demand was positive, then the member will see TCOS charges starting January through December of the following year.

$$\text{TCOS Charge} = 2019 \text{ 4CP Demand} \times \$5.00/\text{kW}$$

$$\text{TCOS Charge} = 3.50 \text{ kW} \times \$5.00/\text{kW}$$

$$\text{TCOS Charge} = \$17.50$$

Sample scenario of TCOS Credit

If the member is generating surplus energy during the 4CP times, and on average, the demand was negative, then the member will see a credit starting January through December of the following year.

$$\text{TCOS Credit} = 2020 \text{ 4CP Demand} \times \$5.00/\text{kW}$$

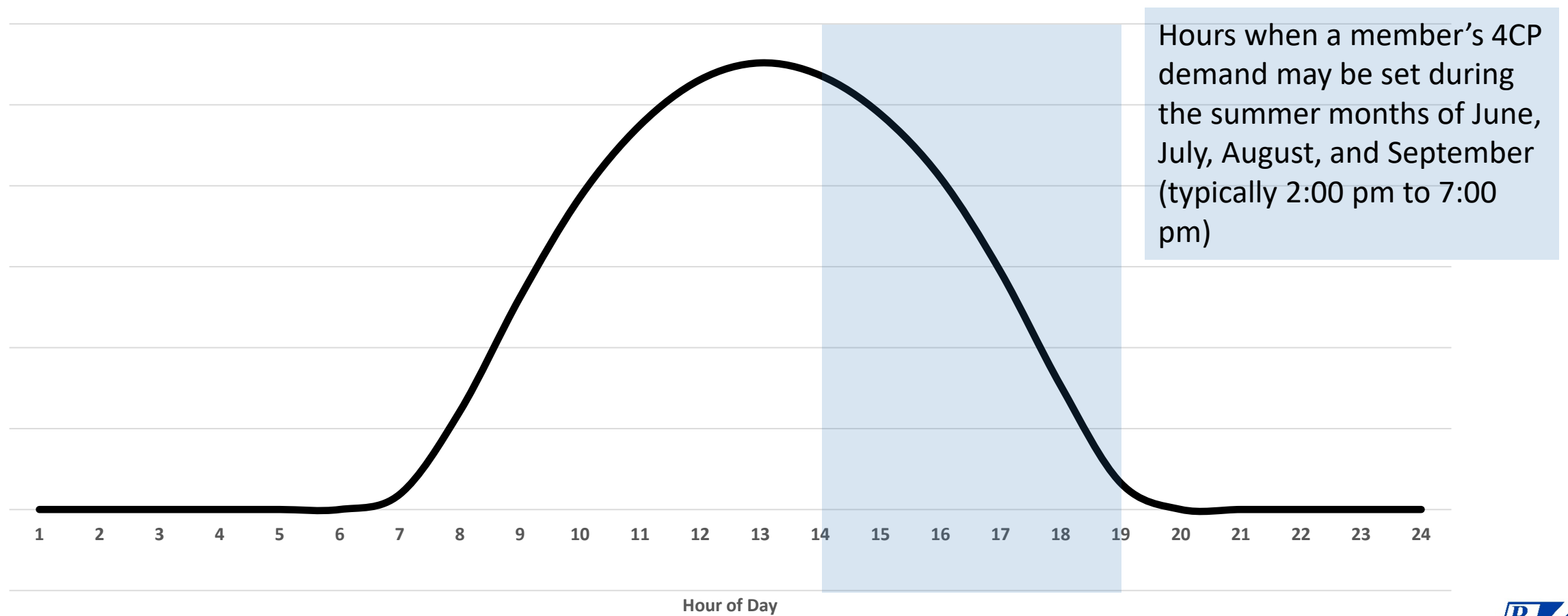
$$\text{TCOS Credit} = -0.75 \text{ kW} \times \$5.00/\text{kW}$$

$$\text{TCOS Credit} = \$3.50$$

Scenarios for TCOS Calculation	
TCOS Charge	TCOS Credit
June 2019	June 2020
6/19 4:45-5PM	6/8 5:45-6PM
3 kW	- 1.00 kW
July 2019	July 2020
7/30 3:45-4PM	7/13 4:30-4:45PM
5 kW	1.00 kW
August 2019	August 2020
8/12 4:45-5PM	8/13 4:30-4:45PM
4 kW	- 2.50 kW
September 2019	September 2020
9/6 4:45-5PM	9/1 2:30-2:45PM
2 kW	- 0.50 kW
Summer of 2019 4CP Demand	Summer of 2020 4CP Demand
3.50 kW	- 0.75 kW

Interconnected Generation Proposed Rate Changes

Transmission Cost of Service (TCOS) Charge: Summer (June – September)



Interconnected Generation Proposed Rate Changes

Proposed Net Billing Rate - Billing Examples

Scenario Information

- Member type: Residential
- Distributed Generation (DG) size: 7 KW
- DG type: solar
- Average energy usage without solar: 1,250 kWh/month

Monthly billing example will show bills for:

- Month in 2021 – Net Metering Rate (Current)
- Month in 2022 – Net Billing Rate with energy based TCOS charges (New)
- Month in 2023 – Net Billing Rate (New)

Interconnected Generation Proposed Rate Changes

Current: Interconnect Net Metering Rate

Bill Sample - 2021

System Specifications		
System size	7 kW	
Billing Determinants		
Delivered Energy (DE)	943	kWh
Received Energy (RE)	401	kWh
Net Energy (DE-RE)	542	kWh

Interim: Interconnect Net Billing Rate (TCOS/kWh)

Bill Sample - 2022

System Specifications		
System size	7 kW	
Billing Determinants		
Peak Demand	5.00	kW
Delivered Energy (DE)	943	kWh
Super Economy	71	kWh
Economy	171	kWh
Normal	460	kWh
Peak	240	kWh
Received Energy (RE)	401	kWh
Super Economy	0	kWh
Economy	0	kWh
Normal	382	kWh
Peak	19	kWh
Net Energy	542	kWh

New: Interconnect Net Billing Rate

Bill Sample - 2023

System Specifications		
System size	7 kW	
Billing Determinants		
Peak Demand	5.00	kW
Delivered Energy (DE)	943	kWh
Super Economy	71	kWh
Economy	171	kWh
Normal	460	kWh
Peak	240	kWh
Received Energy (RE)	401	kWh
Super Economy	0	kWh
Economy	0	kWh
Normal	382	kWh
Peak	19	kWh
4CP Demand	1.00	kW

Current Activity				
Service Availability Charge			\$22.50	\$ 22.50
Delivery Charge	542 kWh	@	\$0.027120	\$ 14.70
Base Power Cost	542 kWh	@	\$0.044500	\$ 24.13
TCOS Charge	542 kWh	@	\$0.013560	\$ 7.35
TOTAL AMOUNT DUE				\$ 68.68

Current Activity				
Service Availability Charge				\$ 22.50
Peak Demand Charge	5 kW	@	\$5.15	\$ 25.75
Base Power Cost				
Super Economy	71 kWh	@	\$0.030616	\$ 2.19
Economy	171 kWh	@	\$0.037529	\$ 6.43
Normal	460 kWh	@	\$0.042449	\$ 19.54
Peak	240 kWh	@	\$0.045680	\$ 10.95
Base Power Energy Credit				
Super Economy	0 kWh	@	-\$0.030616	\$ -
Economy	0 kWh	@	-\$0.037529	\$ -
Normal	382 kWh	@	-\$0.042449	\$ (16.20)
Peak	19 kWh	@	-\$0.045680	\$ (0.86)
TCOS Charge	542 kWh	@	\$0.013560	\$ 7.35
TOTAL AMOUNT DUE				\$ 77.64

Current Activity				
Service Availability Charge				\$ 22.50
Peak Demand Charge	5 kW	@	\$5.15	\$ 25.75
Base Power Cost				
Super Economy	71 kWh	@	\$0.030616	\$ 2.19
Economy	171 kWh	@	\$0.037529	\$ 6.43
Normal	460 kWh	@	\$0.042449	\$ 19.54
Peak	240 kWh	@	\$0.045680	\$ 10.95
Base Power Energy Credit				
Super Economy	0 kWh	@	-\$0.030616	\$ -
Economy	0 kWh	@	-\$0.037529	\$ -
Normal	382 kWh	@	-\$0.042449	\$ (16.20)
Peak	19 kWh	@	-\$0.045680	\$ (0.86)
TCOS Charge/Credit	1.00 kW	@	\$5.35	\$ 5.35
TOTAL AMOUNT DUE				\$ 75.64



Interconnected Generation Proposed Rate Changes

Welcome to our time-of-use calculator.

This calculator is reflective of the last 12 months of usage by calendar month applied to current rates. As a result, the charges/credits will not match your bill exactly. Additionally, it does not include other charges such as franchise fees, taxes or billing discounts.

If you have any questions, please email DGInquiry@peci.com.

Rate: Residential eBilling - 101EB
123580400

Total Usage (kWh) **13,942**

Dates: 5/1/2020 - 4/30/2021 (365 days)

\$1,456.44 Flat Rate

This section reflects your historic usage with the current Net Metering charges and/or credits. Delivered Energy is the total energy consumed. Received Energy is the surplus energy received by PEC. Net Energy is the Delivered Energy minus Received Energy.

Billing Determinants	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021
Delivered Energy, kWh	615	486	675	359	582	1,196	1,723	3,474	3,608	3,638
Received Energy, kWh	-531	-533	-370	-580	-415	-469	-279	-158	-202	-194
Net Energy, kWh	84	-47	305	-221	167	727	1,444	3,316	3,406	3,444
Detail Member Charges/Credits										
Residential eBilling - Paperless	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50
Delivery Charge	\$2.28	\$0.00	\$8.28	\$0.00	\$4.52	\$19.71	\$39.17	\$89.92	\$92.38	\$93.39
Transmission Charge	\$1.14	\$0.00	\$4.15	\$0.00	\$2.26	\$9.86	\$19.60	\$44.97	\$46.17	\$46.69
Base Power Cost	\$27.38	\$21.63	\$30.04	\$15.96	\$25.89	\$53.22	\$76.67	\$154.59	\$160.56	\$161.88
Net Energy Credit	-\$23.63	-\$23.72	-\$16.47	-\$25.81	-\$18.47	-\$20.87	-\$12.42	-\$7.03	-\$8.99	-\$8.64
Total:	\$28.67	\$19.41	\$47.50	\$11.65	\$35.70	\$83.42	\$144.52	\$303.95	\$311.62	\$314.82

Time of Use sections refers to the proposed Net Billing Rate.

Flat rate refers to the existing Net Energy Rate, using rates as of today.

\$1,572.64 Time-of-Use

This section reflects your historic usage with the proposed Interconnect Rate. This data may not be billing quality data and may produce incorrect estimates because the historic data used for billing was a daily meter read and the new rates are based on hourly reads. Prior to the proposed rate taking effect in January 1, 2022, all data used for billing will be of billing quality.

Billing Determinants	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021
Peak Demand, kW	6.66	7.62	9.73	4.99	9.47	10.94	13.70	17.55	21.00	20.67	11.52	9.66
4CP Demand *, kW	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Delivered Energy, kWh	615	486	675	359	582	1,196	1,723	3,474	3,608	3,638	1,358	877
Received Energy, kWh	-531	-533	-370	-580	-415	-469	-279	-158	-202	-194	-489	-429
Net Energy, kWh	84	-47	305	-221	167	727	1,444	3,316	3,406	3,444	869	448
Detail Member Charges/Credits												
Residential eBilling - Paperless	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50	\$21.50
Peak Demand Charge	\$34.30	\$39.24	\$50.11	\$25.70	\$48.77	\$56.34	\$70.56	\$90.38	\$108.15	\$106.45	\$59.33	\$49.75
Transmission Charge	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05	\$3.05
Base Power Cost												
Super Economy	\$1.99	\$1.49	\$1.16	\$1.00	\$1.49	\$3.95	\$5.57	\$12.31	\$12.25	\$10.50	\$3.89	\$2.76
Economy	\$5.29	\$5.24	\$4.92	\$3.83	\$5.02	\$7.77	\$12.46	\$27.29	\$27.96	\$25.52	\$9.84	\$7.13
Normal	\$10.99	\$5.53	\$7.28	\$4.59	\$8.07	\$21.14	\$26.91	\$54.04	\$60.62	\$68.26	\$22.92	\$17.36
Peak	\$6.85	\$4.03	\$7.45	\$3.19	\$5.06	\$16.53	\$26.27	\$48.97	\$47.28	\$46.00	\$19.59	\$8.59
Super Peak	\$0.00	\$2.92	\$10.72	\$0.89	\$3.81	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total:	\$25.12	\$19.21	\$31.53	\$13.50	\$23.45	\$49.39	\$71.21	\$142.61	\$148.11	\$150.28	\$56.24	\$35.84
Net Energy Credit												
Super Economy	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Economy	-\$0.04	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Normal	-\$20.33	-\$6.06	-\$5.27	-\$7.75	-\$3.55	-\$18.80	-\$11.84	-\$6.71	-\$8.32	-\$7.98	-\$18.72	-\$15.92
Peak	-\$2.33	-\$7.49	-\$5.16	-\$8.25	-\$6.89	-\$1.19	\$0.00	\$0.00	-\$0.27	-\$0.27	-\$2.19	-\$2.47
Super Peak	\$0.00	-\$18.08	-\$10.01	-\$16.66	-\$14.98	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total:	-\$22.70	-\$31.63	-\$20.44	-\$32.66	-\$25.42	-\$19.99	-\$11.84	-\$6.71	-\$8.59	-\$8.25	-\$20.91	-\$18.39
Total:	\$61.27	\$51.37	\$85.75	\$31.09	\$71.35	\$110.29	\$154.48	\$250.83	\$272.22	\$273.03	\$119.21	\$91.75

Interconnected Generation Proposed Rate Changes

How to access the calculator:

1. Log in to Smart Hub via:
<https://pec.smarthub.coop/>
2. Click on the Time-of-Use Calculator link found under Quick Links on the left hand side bar.
3. Click on the Time-of-Use Calculator tab under Usage Management.
4. Click the Green Button.

The image shows two screenshots of the PEC Smart Hub website. The top screenshot displays the main navigation menu with 'My Usage' selected. Below the menu, there are 'Quick Links' and a 'View and Manage My Usage' section with a green 'Start Now' button. The bottom screenshot shows the 'Usage Management' page with 'Time-of-Use Calculator' selected in the left sidebar and a green play button highlighted in the main content area. Red arrows in both screenshots indicate the specific elements mentioned in the instructions.

Please visit PEC's webpage for [Distributed Generation Rates](#)

If you have any Questions please email DGInquiry@peci.com

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pec.coop

Interconnected Generation Proposed Rate Changes

Summary – Residential and Small Power Monthly Bill Charges and Credits

Charge/Credit	Amount	Billing Determinant	Unit	How the billing determinant is measured?
Service Availability Charge	Residential - \$22.50 Small Power - \$37.50	X 1	month	
Peak Demand Charge	Residential and Small Power - \$5.15	X Peak Demand	kW	<p>Non-Summer months: the maximum hourly kilowatt (kW) of demand consumed during peak time periods (5:01 am to 8:00 am and 4:01 pm to 7:00 pm), rounded two decimal places.</p> <p>Summer months: the maximum hourly kilowatt (kW) of demand consumed during Peak and Super Peak time periods (12:01 pm to 8:00 pm), rounded two decimal places.</p> <p>The peak demand will be reset monthly and a new peak will be established.</p>
Base Power Charge	Varies per TOU	X Delivered Energy per TOU period	kWh	The total sum of Delivered Energy by TOU time periods, rounded to the nearest whole number.
Base Power Credit (formerly the Net Metering Credit)	Varies per TOU	X Received Energy by TOU period	kWh	The total sum of Received Energy by TOU time periods, rounded to the nearest whole number.
Transmission Cost of Service Charge/Credit	~ \$5.00	X 4CP Demand	kW	The average demand measured during each of the 15 minutes 4CP intervals.