

## UTILITY COSTS

### Water Rates for Regional Areas

Water Rates by User Types

Type 1 Residence		
Water Volume (cubic meters)	Water rate (per cubic meter)	
	Baht	US\$
0-30	8.50	0.27
	<b>(not less than 45 baht/US\$1.41)</b>	
31-40	10.03	0.31
41-50	10.35	0.32
51-60	10.68	0.33
61-70	11.00	0.34
71-80	11.33	0.35
81-90	12.50	0.39
91-100	12.82	0.40
101-120	13.15	0.41
121-160	13.47	0.42
161-200	13.80	0.43
over 200	14.45	0.45

Type 2 Commerce, Government Agency, State Enterprise, and Industry		
Water Volume (cubic meters)	Water rate (per cubic meter)	
	Baht	US\$
0-10	9.50	0.31
	<b>(not less than 90 baht/ US\$2.82)</b>	
11-20	10.70	0.33
21-30	10.95	0.34
31-40	13.21	0.41
41-50	13.54	0.42
51-60	13.86	0.43
61-80	14.19	0.44
81-100	14.51	0.45
101-120	14.84	0.46
121-160	15.16	0.47
161-200	15.49	0.48
over 200	15.81	0.49

MWA has been charged the untreated water at the rate of 0.15 baht/cubic meter to the Royal Irrigation Department.

Note:

Value Added Tax is not included.

Bulk sale:

Type 1 = 10.50 baht/cubic meter;

Type 2 = 13.00 baht/cubic meter

In case of low-income residence (more than 30 houses) that use less than 30 cubic meters per house they have a rate of 8.5 baht per cubic meter.

Source: The Metropolitan Waterworks Authority, as of April 2014: [www.mwa.co.th](http://www.mwa.co.th)

## Electricity Tariffs

### Schedule 1: Residential

(Applicable to household and other dwelling places, monasteries, house of priest, and churches of any religion, including its compound through a single Watt-hour meter)

1.1 Normal Rate	Energy Charge (per kWh)		Service Charge	
	Baht	US\$	Baht/month	US\$/month
1.1.1 Consumption not exceeding 150 kWh per month			8.19	0.26
First 15 kWh (0 – 15 <sup>th</sup> )	1.8632	0.06		
Next 10 kWh (16 <sup>th</sup> -25 <sup>th</sup> )	2.5026	0.08		
Next 10 kWh (26 <sup>th</sup> -35 <sup>th</sup> )	2.7549	0.09		
Next 65 kWh (36 <sup>th</sup> -100 <sup>th</sup> )	3.1381	0.10		
Next 50 kWh (101 <sup>st</sup> -150 <sup>th</sup> )	3.2315	0.10		
Next 250 kWh (151 <sup>st</sup> -400 <sup>th</sup> )	3.7362	0.12		
Over 400 kWh (401 <sup>st</sup> and over)	3.9361	0.12		
<b>Customer, who classified under 1.1.1, will be received free electricity for that month if consumption not exceeding 50 kWh.</b>				
1.1.2 Consumption exceeding 150 kWh per month			38.22	1.19
First 150 kWh (0-150 <sup>th</sup> )	2.7628	0.09		

Next 250 kWh (151 <sup>st</sup> -400 <sup>th</sup> )	3.7362		0.12			
Over 400 kWh (401 <sup>st</sup> and over)	3.9361		0.12			
<b>1.2 Time of Use Rate (TOU)</b>	<i>Peak (per kWh)</i>		<i>Off Peak (per kWh)</i>		<b>Service Charge</b>	
	<i>Baht</i>	<i>US\$</i>	<i>Baht</i>	<i>US\$</i>	<i>Baht/month</i>	<i>US\$/month</i>
1.2.1 At voltage level 22-33 kV	4.5827	0.14	2.1495	0.07	312.24	9.76
1.2.2 At voltage level less than 22 kV	5.2674	0.16	2.1827	0.07	38.22	1.19

**Note:**

- Customer with installed meter less than 5 Amp, 200 V., 1 phase, 2 Wires, is classified under 1.1.1. However, if monthly consumption is over 150 kWh for 3 consecutive months, the customer will be reclassified under 1.1.2 in the following month; and if monthly consumption is not over 150 kWh for 3 consecutive months, the customer will be reclassified under 1.1.1 in the following month.
- Customer with installed meter over 5 Amp, 220 V., 1 Phase, 2 Wires, is classified under 1.1.2.
- As for tariff No. 1.2, if meter is installed on the low voltage side of customer's transformer, another 2% must be added to energy consumption in order to compensate for transformer losses.
- Tariff No. 1.2 is an optional rate, and may switch back to Tariff No. 1.1 following a minimum use of 12 months. Moreover, the customer is obliged to pay for any additional cost of installing and removing any equipment which required to the meter, and/or any cost by PEA.

### Schedule 2: Small General Service

(Applicable to business, business with residential, industrial, government institutions, local authorities, state enterprises, embassies, establishment related to foreign countries, or international organizations, etc., including its compound with a maximum 15-minute integrated demand of less than 30 kW through a single Watt-hour meter)

<b>2.1 Normal Rate</b>	<b>Energy Charge (per kWh)</b>				<b>Service Charge</b>	
	<i>Baht</i>	<i>US\$</i>	<i>Baht</i>	<i>US\$</i>	<i>Baht/month</i>	<i>US\$/month</i>
2.1.1 At voltage level 22-33 kV	3.4230	0.11			312.24	9.76
2.1.2 At voltage level less than 22 kV					46.16	1.44
First 150 kWh (0-150 <sup>th</sup> )	2.7628		0.09			
Next 250 kWh (151 <sup>st</sup> -400 <sup>th</sup> )	3.7362		0.12			
Over 400 kWh (401 <sup>st</sup> and over)	3.9361		0.12			
<b>2.2 Time of Use Rate (TOU)</b>	<i>Peak (per kWh)</i>		<i>Off Peak (per kWh)</i>		<b>Service Charge</b>	
	<i>Baht</i>	<i>US\$</i>	<i>Baht</i>	<i>US\$</i>	<i>Baht/month</i>	<i>US\$/month</i>
2.2.1 At voltage level 22-33 kV	4.5827	0.14	2.1495	0.07	312.24	9.76
2.2.2 At voltage level less than 22 kV	5.2674	0.16	2.1827	0.07	46.16	1.44

**Note:**

- As for Tariff No. 2.2, if meter is installed on the low voltage side of customer's transformer, another 2% must be added to energy consumption in order to compensate for transformer losses.
- Tariff No. 2.2 is an optional rate and may switch back to Tariff No. 2.1 following a minimum use of 12 months. Moreover, the customer is obliged to pay for any additional cost of installing and removing any equipment required to meter, and/or any cost specified by PEA.
- In any month, if the maximum 15-minute integrated demand is equal to or over 30 kW, the customer will be classified under Schedule 3-5 depending on the case.

### Schedule 3: Medium General Service

(Applicable to business, industrial, government institutions, local authorities, state enterprises, embassies, establishment related to foreign countries or international organizations, including its compound with a maximum 15-minute integrated demand of at least 30 kW but less than 1,000 kW, and average energy consumption in the last 3 consecutive months not exceeding 250,000 kWh per month through a single demand meter)

<b>3.1 Normal Rate</b>	<b>Demand Charge (per kW)</b>		<b>Energy Charge (per kWh)</b>		<b>Service Charge (per month)</b>	
	<i>Baht</i>	<i>US\$</i>	<i>Baht</i>	<i>US\$</i>	<i>Baht</i>	<i>US\$</i>
3.1.1 At voltage level 69 kV and above	175.70	5.49	2.6506	0.08	312.24	9.76
3.1.2 At voltage level 22-33 kV	196.26	6.13	2.6880	0.08	312.24	9.76
3.1.3 At voltage level less than 22 kV	221.50	6.92	2.7160	0.08	312.24	9.76

3.2 Time of Use Rate (TOU)*			Peak (per kWh)		Off Peak (per kWh)			
	Baht	US\$	Baht	US\$	Baht	US\$	Baht	US\$
3.2.1 At voltage level 69 kV and above	74.14	2.32	3.5982	0.11	2.1572	0.07	312.24	9.76
3.2.2 At voltage level 22–33 kV	132.93	4.15	3.6796	0.11	2.1760	0.07	312.24	9.76
3.2.3 At voltage level less than 22 kV	210.00	6.56	3.8254	0.12	2.2092	0.07	312.24	9.76

**Minimum Charge:** As for Schedule 3, the minimum charge shall not be lower than 70% of the maximum demand charge during the last 12 month period ending with the current month.

Note:

1. If meter is installed on the low voltage side of customer's transformer, another 2% must be added to both demand and energy consumption in order to compensate for transformer losses.
2. Tariff No. 3.2 must be applied for any customer who first qualified under Schedule 3 since October 2000.
3. Tariff No. 3.2 is an optional rate for customer who accepted as PEA's customer before October 2000 and shall not be able to switch back to Tariff No. 3.1. The customer is obligated to pay any additional cost of installing and removing any equipment required to meter, and/or any cost specified by PEA.
4. In any month, if the maximum 15-minute integrated demand is less than 30 kW, this rate will still be applied. However, if such demand has dropped below 30 kW for 12 consecutive months and still below 30 kW in the 13<sup>th</sup> month, the customer will be reclassified under Tariff No. 2.1.

### Schedule 4: Large General Service

(Applicable to business, industrial, government institutions, local authorities, state enterprises, embassies, establishment related to foreign countries or international organizations, including its compound with a maximum 15-minute integrated demand of 30 kW and over or average energy consumption in the last 3 consecutive months exceeding 250,000 kWh per month through a single demand meter)

4.1 Time of Day Rate (TOD)	Demand Charge (per kW)						Energy Charge (per kWh)		Service Charge (per month)	
	Peak		Partial		Off Peak		Baht	US\$	Baht	US\$
	Baht	US\$	Baht	US\$	Baht	US\$				
4.1.1 At voltage level 69 kV and above	224.30	7.01	29.91	0.93	0	0	2.6506	0.08	312.24	9.76
4.1.2 At voltage level 22-33 kV	285.05	8.91	58.88	1.84	0	0	2.6880	0.08	312.24	9.76
4.1.3 At voltage level less than 22 kV	332.71	10.40	68.22	2.13	0	0	2.7160	0.08	312.24	9.76

Peak: 18.30 - 21.30 every day

Partial: 08.00 - 18.30 everyday (Demand charge is considered only the excess demand over peak recorded on peak period)

Off Peak: 21.30 - 08.00 every day

4.2 Time of Use Rate (TOU)	Demand Charge (per kW)		Energy Charge (per kWh)				Service Charge (per month)	
	Peak		Peak		Off Peak		Baht	US\$
	Baht	US\$	Baht	US\$	Baht	US\$		
4.2.1 At voltage level 69 kV and above	74.14	2.32	3.5982	0.11	2.1572	0.07	312.24	9.76
4.2.2 At voltage level 22-33 kV	132.93	4.15	3.6796	0.11	2.1760	0.07	312.24	9.76
4.2.3 At voltage level less than 22 kV	210.00	6.56	3.8254	0.12	2.2092	0.07	312.24	9.76

**Minimum Charge:** As for Schedule 4, the minimum charge shall not be lower than 70% of the maximum demand charge during the last 12 months period ending with the current month.

Note:

1. Tariff No. 4.2 must be applied for any customer who first qualified under Schedule 4 or time of use customers who accepted as PEA's customer before October 2000.
2. Tariff No. 4.2 is an optional rate for customer who accepted as PEA's customer before October 2000 and shall not be able to switch back to Tariff No. 4.1. The customer is obligated to pay for any additional cost of installing and removing any equipment required to meter, and/or any cost specified by PEA.
3. In any month, if the maximum 15-minute integrated demand is less than 1,000 kW or monthly energy consumption not exceeding 250,000 kWh, this rate will still be applied. However, if such demand has dropped below 30 kW for 12 consecutive months and still below 30 kW in the 13<sup>th</sup> month, the customer will be reclassified under tariff No. 2.1 instead.

### Schedule 5: Specific Business Service

(Applicable to hotels, guest houses, or other businesses providing lodging to customers, including its compound with a maximum 15-minute integrated demand of 30 kW and over through a single demand meter)

5.1 Time of Use Rate (TOU)	Demand Charge (per kW)		Energy Charge (per kWh)				Service Charge (per month)	
	Peak		Peak		Off Peak			
	Baht	US\$	Baht	US\$	Baht	US\$	Baht	US\$
5.1.1 At voltage level 69 kV and above	74.14	2.32	3.5982	0.11	2.1572	0.07	312.24	9.76
5.1.2 At voltage level 22–33 kV	132.93	4.15	3.6796	0.11	2.1760	0.07	312.24	9.76
5.1.3 At voltage level less than 22 kV	210.00	6.56	3.8254	0.12	2.2092	0.07	312.24	9.76
5.2 During the Installation of TOU Meter	Baht	US\$	Baht		US\$		Baht	US\$
5.2.1 At voltage level 69 kV and above	220.56	6.89	2.6506		0.08		312.24	9.76
5.2.2 At voltage level 22–33 kV	256.07	8.00	2.6880		0.08		312.24	9.76
5.2.3 At voltage level less than 22 kV	276.64	8.65	2.7160		0.08		312.24	9.76

**Minimum Charge:** 70% of the maximum demand charge during the last 12-month period ending with the current month.

Note:

- If meter is installed on the low voltage side of customer's transformer, another 2% must be added to both total demand and energy consumption in order to compensate for transformer losses.
- Tariff No. 5.1 must be applied for any customer who first qualified under Schedule 5. In addition, Tariff No. 5.2 is temporarily used during the installation of TOU meter.
- In any month, if the maximum 15-minute integrated demand is less than 30 kW or monthly energy consumption not exceeding 250,000 kWh, this rate will still be applied. However, if such demand has dropped below 30 kW for 12 consecutive months and still below 30 kW in the 13<sup>th</sup> month, the customer will be reclassified under Tariff No. 2.1 instead.

### Schedule 6: Non-Profit Organization

(Applicable to non-government organizations that offering non-charge services through a single demand meter)

6.1 Normal Rate	Energy Charge (per kWh)				Service Charge (per month)			
	US\$		Baht	US\$				
6.1.1 At voltage level 69 kV and above	2.9558		0.09		312.24	9.76		
6.1.2 At voltage level 22–33 kV	3.1258		0.10		312.24	9.76		
6.1.3 At voltage level less than 22 kV					20.00	0.63		
First 10 kWh (0-10 <sup>th</sup> )	2.3422		0.07					
Over 10 kWh (11 <sup>th</sup> and over)	3.4328		0.11					
6.2 Time of Use Rate (TOU)	Demand Charge (per kW)		Energy Charge (per kWh)				Service Charge (per month)	
	Peak		Peak		Off Peak			
	Baht	US\$	Baht	US\$	Baht	US\$	Baht	US\$
6.2.1 At voltage level 69 kV and above	74.14	2.32	3.5982	0.11	2.1572	0.07	312.24	9.76
6.2.2 At voltage level 22–33 kV	132.93	4.15	3.6796	0.11	2.1760	0.07	312.24	9.76
6.2.3 At voltage level less than 22 kV	210.00	6.56	3.8254	0.12	2.2092	0.07	312.24	9.76

**Minimum Charge:** As for Tariff No. 6.2, the minimum charge shall not be lower than 70% of the maximum demand charge during the last 12-month period ending with the current month.

Note:

- As for government institutions and local authorities, if average energy consumption in the last 3 consecutive months exceeding 250,000 kWh, customer will still be classified under Schedule 6 until electric bill of September 2012, Then, starting from electric bill of October 2012, customer will be reclassified under Schedule 2-4 depended on the case.
- If meter is installed on the low voltage side of customer's transformer, another 2% must be added to both demand and energy consumption in order to compensate for transformer losses.
- Tariff No. 6.2 is an optional rate and shall not be able to switch back to Tariff No. 6.1. The customer is obligated to pay for any additional cost of installing and removing any equipment required to meter, and/or any cost specified by PEA.

**Schedule 7: Agricultural Pumping**

(Applicable to electricity consumption for the using of water pumps for agricultural purposes of government agricultural agencies, officially recognized farmer group, agriculture co-operatives, through a single demand meter)

**Monthly Rate**

7.1 Normal Rate		Energy Charge (per kWh)			Service Charge (per month)					
		US\$	Baht	US\$						
						115.16	3.60			
First 100 kWh (0-100 <sup>th</sup> )		1.6033		0.05						
Over 100 kWh (101 <sup>st</sup> and over)		2.7549		0.09						
7.2 Time of Use Rate (TOU)	Demand Charge (per kW)		Energy Charge (per kWh)				Service Charge (per month)			
	Peak		Peak		Off Peak					
	Baht	US\$	Baht	US\$	Baht	US\$	Baht	US\$		
7.2.1	At voltage level 22–33 kV		132.93	4.15	3.6531	0.11	2.1495	0.07	228.17	7.13
7.2.2	At voltage level less than 22 kV		210.00	6.56	3.7989	0.12	2.1827	0.07	228.17	7.13

**Minimum Charge:** As for Tariff No. 76.2, the minimum charge shall not be lower than 70% of the maximum demand charge during the last 12-month period ending with the current month.

- Note:
1. If meter is installed on the low voltage side of customer's transformer or PEA's transformer (only in case of a lower voltage meter is installed on the CT), another 2% must be added to both demand and energy consumption in order to compensate for transformer losses.
  2. Tariff No. 7.2 is an optional rate and shall not be able to switch back to Tariff No. 7.1. The customer is obligated to pay for any additional cost of installing and removing any equipment required to meter, and/or any cost specified by PEA.

**Schedule 8: Temporary Service**

(Applicable to temporary use for construction, temporary special events, and places without registration number including electricity consumption which is not followed PEA's Rules and Regulations, through a single Watt-hour meter.)

	Baht/kWh	US\$/kWh
Energy Charge (at All Voltage Level)	6.3434	0.20

Note: Customer, who classified under this schedule, desires any alternative electricity usage or it is inspected by PEA that such electricity consumption has been changed differently from above schedule, for instance, businesses, industrials, and households. When customer reapplies for permanent consumption at PEA including electricity wiring, installed interior equipment which followed the PEA standard, and pay for any additional fee according to PEA's regulation, the customer will be reclassified under schedule 1-7 depended on the case.

<b>Peak:</b> 09:00 a.m.–10:00 pm Monday–Friday and Royal Ploughing Ceremony Day	<b>Off-peak:</b> 10:00 p.m.–09:00 a.m. Monday–Friday and Royal Ploughing Ceremony Day 00:00 a.m.–11:59 p.m. (24 hrs.) Saturday–Sunday, Labor Day, Public Holidays, (except compensation holidays), and the Royal Ploughing Ceremony Day, if it falls on Saturday or Sunday.
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**Conditions Related to Electricity Tariffs**

1. For customer, who applicable to Schedule 3, 4, and 5 with a lagging power factor, the power factor charge 56.07 Baht/kVAR/month will be added for each of maximum 15-minute reactive power (kVAR demand) exceeds 61.97% of maximum 15-minute active power (kW demand). The fraction, which is less than 0.5 kVAR, is excised, and increased to 1 if equal or more than 0.5 kVAR.
2. The electricity tariffs exclude a Value Added Tax (VAT)
3. Monthly Electricity Charge is composed of above electricity tariffs, Fuel Adjustment Charge (Ft), and VAT

**The above electricity tariffs are effective from 2012-2015**

Source: Provincial Electricity Authority. For more information please contact Electricity, Business and Tariff Division. Phone: 02-590-9125  
Website: www.pea.co.th, as of June 2014