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Monthly Consumption with Solar System for Domestic Tariff Consumers

Domestic								
Consumption	Solar System	Unit Generation	Billing Units	Previous Bill (LKR)	Present Bill (LKR)	Savings per Month (LKR)	System Cost (LKR)	SPP (Years)
30	1 kW	125	0	105.00	30.00	75.00	600,000.00	666.67
60		125	0	280.50	30.00	250.50	600,000.00	199.60
90		125	0	861.00	30.00	831.00	600,000.00	60.17
120		125	0	2,083.50	30.00	2,053.50	600,000.00	24.35
150		125	25	3,043.50	92.50	2,951.00	600,000.00	16.94
180		125	55	4,003.50	256.25	3,747.25	600,000.00	13.34
210		125	85	5,413.50	811.00	4,602.50	600,000.00	10.86
240		125	115	6,763.50	1,944.75	4,818.75	600,000.00	10.38
210	2 kW	210	0	5,413.50	30.00	5,383.50	740,000.00	11.45
240		210	30	6,763.50	105.00	6,658.50	740,000.00	9.26
270		210	60	8,113.50	280.50	7,833.00	740,000.00	7.87
300		210	90	9,463.50	861.00	8,602.50	740,000.00	7.17
330		210	120	10,813.50	2,083.50	8,730.00	740,000.00	7.06
360		210	150	12,163.50	3,043.50	9,120.00	740,000.00	6.76
390		210	180	13,513.50	4,003.50	9,510.00	740,000.00	6.48
420		210	210	14,863.50	5,413.50	9,450.00	740,000.00	6.53
330	3 kW	330	0	10,813.50	30.00	10,783.50	1,000,000.00	7.73
360		330	30	12,163.50	105.00	12,058.50	1,000,000.00	6.91
390		330	60	13,513.50	280.50	13,233.00	1,000,000.00	6.30
420		330	90	14,863.50	861.00	14,002.50	1,000,000.00	5.95
450		330	120	16,213.50	2,083.50	14,130.00	1,000,000.00	5.90
480		330	150	17,563.50	3,043.50	14,520.00	1,000,000.00	5.74
510		330	180	18,913.50	4,003.50	14,910.00	1,000,000.00	5.59
540		330	210	20,263.50	5,413.50	14,850.00	1,000,000.00	5.61
450	4 kW	450	0	16,213.50	30.00	16,183.50	1,250,000.00	6.44
480		450	30	17,563.50	105.00	17,458.50	1,250,000.00	5.97
510		450	60	18,913.50	280.50	18,633.00	1,250,000.00	5.59
540		450	90	20,263.50	861.00	19,402.50	1,250,000.00	5.37
570		450	120	21,613.50	2,083.50	19,530.00	1,250,000.00	5.33
600		450	150	22,963.50	3,043.50	19,920.00	1,250,000.00	5.23
630		450	180	24,313.50	4,003.50	20,310.00	1,250,000.00	5.13

660		450	210	25,663.50	5,413.50	20,250.00	1,250,000.00	5.14
600	5 kW	600	0	22,963.50	30.00	22,933.50	1,500,000.00	5.45
630		600	30	24,313.50	105.00	24,208.50	1,500,000.00	5.16
660		600	60	25,663.50	280.50	25,383.00	1,500,000.00	4.92
690		600	90	27,013.50	861.00	26,152.50	1,500,000.00	4.78
720		600	120	28,363.50	2,083.50	26,280.00	1,500,000.00	4.76
750		600	150	29,713.50	3,043.50	26,670.00	1,500,000.00	4.69
810		600	210	32,413.50	5,413.50	27,000.00	1,500,000.00	4.63
870		600	270	35,113.50	8,113.50	27,000.00	1,500,000.00	4.63
750	6 kW	750	0	29,713.50	30.00	29,683.50	1,800,000.00	5.05
810		750	60	32,413.50	280.50	32,133.00	1,800,000.00	4.67
870		750	120	35,113.50	2,083.50	33,030.00	1,800,000.00	4.54
930		750	180	37,813.50	4,003.50	33,810.00	1,800,000.00	4.44
960		750	210	39,163.50	5,413.50	33,750.00	1,800,000.00	4.44
1020		750	270	41,863.50	8,113.50	33,750.00	1,800,000.00	4.44
1080		750	330	44,563.50	10,813.50	33,750.00	1,800,000.00	4.44
960	8 kW	960	0	39,163.50	30.00	39,133.50	2,200,000.00	4.68
1020		960	60	41,863.50	280.50	41,583.00	2,200,000.00	4.41
1080		960	120	44,563.50	2,083.50	42,480.00	2,200,000.00	4.32
1140		960	180	47,263.50	4,003.50	43,260.00	2,200,000.00	4.24
1200		960	240	49,963.50	6,763.50	43,200.00	2,200,000.00	4.24
1260		960	300	52,663.50	9,463.50	43,200.00	2,200,000.00	4.24
1320		960	360	55,363.50	12,163.50	43,200.00	2,200,000.00	4.24
1200	10 kW	1200	0	49,963.50	30.00	49,933.50	2,700,000.00	4.51
1260		1200	60	52,663.50	280.50	52,383.00	2,700,000.00	4.30
1320		1200	120	55,363.50	2,083.50	53,280.00	2,700,000.00	4.22
1380		1200	180	58,063.50	4,003.50	54,060.00	2,700,000.00	4.16
1450		1200	250	61,213.50	7,213.50	54,000.00	2,700,000.00	4.17
1480		1200	280	62,563.50	8,563.50	54,000.00	2,700,000.00	4.17
1570		1200	370	66,613.50	12,613.50	54,000.00	2,700,000.00	4.17
1450	12 kW	1450	0	61,243.50	30.00	61,213.50	3,200,000.00	4.36
1480		1450	30	62,563.50	105.00	62,458.50	3,200,000.00	4.27
1510		1450	60	63,913.50	280.50	63,633.00	3,200,000.00	4.19
1570		1450	120	66,613.50	2,083.50	64,530.00	3,200,000.00	4.13
1630		1450	180	69,313.50	4,003.50	65,310.00	3,200,000.00	4.08
1690		1450	240	72,013.50	6,763.50	65,250.00	3,200,000.00	4.09
1750		1450	300	74,713.50	9,463.50	65,250.00	3,200,000.00	4.09
1800		1450	350	76,963.50	11,713.50	65,250.00	3,200,000.00	4.09
1890		1450	440	81,013.50	15,763.50	65,250.00	3,200,000.00	4.09
1800	15 kW	1800	0	76,963.50	30.00	76,933.50	3,900,000.00	4.22
1860		1800	60	79,663.50	280.50	79,383.00	3,900,000.00	4.09

1890		1800	90	81,013.50	861.00	80,152.50	3,900,000.00	4.05
1920		1800	120	82,363.50	2,083.50	80,280.00	3,900,000.00	4.05
1950		1800	150	83,713.50	3,043.50	80,670.00	3,900,000.00	4.03
1980		1800	180	85,063.50	4,003.50	81,060.00	3,900,000.00	4.01



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Monthly Consumption with Solar System for General Purpose Tariff Consumers

General Purpose Tariff (GP 1)								
Consumption	Solar System	Unit Generation	Billing Units	Previous Bill (LKR)	Present Bill (LKR)	Savings per Month (LKR)	System Cost (LKR)	SPP (Years)
30	1 kW	125	0	867.98	240.00	627.98	600,000	79.62
60		125	0	1,495.95	240.00	1,255.95	600,000	39.81
90		125	0	2,123.93	240.00	1,883.93	600,000	26.54
120		125	0	2,751.90	240.00	2,511.90	600,000	19.91
150		125	25	3,379.88	764.33	2,615.55	600,000	19.12
180		125	55	4,007.85	1,392.30	2,615.55	600,000	19.12
210		125	85	4,635.83	2,020.28	2,615.55	600,000	19.12
240		125	115	5,523.81	2,648.25	2,875.56	600,000	17.39
210	2 kW	210	0	4,635.83	240.00	4,395.83	740,000	14.03
240		210	30	5,523.81	867.98	4,655.83	740,000	13.25
270		210	60	6,184.28	1,495.95	4,688.33	740,000	13.15
300		210	90	6,844.76	2,123.93	4,720.83	740,000	13.06
330		210	120	8,356.08	2,751.90	5,604.18	740,000	11.00
360		210	150	9,093.91	3,379.88	5,714.03	740,000	10.79
330	3 kW	330	0	8,356.08	240.00	8,116.08	1,000,000	10.27
360		330	30	9,093.91	867.98	8,225.93	1,000,000	10.13
390		330	60	9,831.73	1,495.95	8,335.78	1,000,000	10.00
420		330	90	10,569.56	2,123.93	8,445.63	1,000,000	9.87
450		330	120	11,307.38	2,751.90	8,555.48	1,000,000	9.74
480		330	150	12,045.21	3,379.88	8,665.33	1,000,000	9.62
510		330	180	12,783.03	4,007.85	8,775.18	1,000,000	9.50
450	4 kW	450	0	11,307.38	240.00	11,067.38	1,250,000	9.41
510		450	60	12,783.03	1,495.95	11,287.08	1,250,000	9.23
540		450	90	13,520.86	2,123.93	11,396.93	1,250,000	9.14
570		450	120	14,258.68	2,751.90	11,506.78	1,250,000	9.05
600		450	150	14,996.51	3,379.88	11,616.63	1,250,000	8.97
600		600	0	14,996.51	240.00	14,756.51	1,500,000	8.47
660	5 kW	600	60	16,472.16	1,495.95	14,976.21	1,500,000	8.35
720		600	120	17,947.81	2,751.90	15,195.91	1,500,000	8.23
750		600	150	18,685.63	3,379.88	15,305.75	1,500,000	8.17
750	6 kW	750	0	18,685.63	240.00	18,445.63	1,800,000	8.13
810		750	60	20,161.28	1,495.95	18,665.33	1,800,000	8.04
870		750	120	21,636.93	2,751.60	18,885.33	1,800,000	7.94

930		750	180	23,112.58	4,007.85	19,104.73	1,800,000	7.85
960		750	210	23,850.41	4,635.83	19,214.58	1,800,000	7.81
960	8 kW	960	0	23,850.41	240.00	23,610.41	2,200,000	7.76
1020		960	60	25,326.06	1,495.95	23,830.11	2,200,000	7.69
1080		960	120	26,801.71	2,751.90	24,049.81	2,200,000	7.62
1140		960	180	28,277.36	4,007.85	24,269.51	2,200,000	7.55
1200		960	240	29,753.01	5,523.81	24,229.20	2,200,000	7.57
1200	10 kW	1200	0	29,753.01	240.00	29,513.01	2,700,000	7.62
1260		1200	60	31,228.66	1,495.95	29,732.71	2,700,000	7.57
1320		1200	120	32,704.31	2,751.90	29,952.41	2,700,000	7.51
1380		1200	180	34,179.96	4,007.85	30,172.11	2,700,000	7.46
1450		1200	250	35,904.23	5,749.68	30,154.55	2,700,000	7.46
1450	12 kW	1450	0	35,904.23	240.00	35,664.23	3,200,000	7.48
1510		1450	60	37,379.88	1,495.95	35,883.93	3,200,000	7.43
1570		1450	120	38,855.53	2,751.90	36,103.63	3,200,000	7.39
1630		1450	180	40,331.18	4,007.85	36,323.33	3,200,000	7.34
1690		1450	240	41,806.83	5,523.81	36,283.02	3,200,000	7.35
1750		1450	300	43,282.48	6,844.76	36,437.72	3,200,000	7.32
1800		1450	350	44,509.51	8,849.31	35,660.20	3,200,000	7.48
1800	15 kW	1800	0	44,509.51	240.00	44,269.51	3,900,000	7.34



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PV Output (kWh) for Different Azimuth Angle

Tilt Angle - 7°													
Azimuth	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
(-180) - North	479	534	580	551	496	486	488	502	477	461	443	441	5,936
-170	480	534	580	551	496	486	488	502	477	461	443	441	5,939
-160	480	534	581	552	497	487	488	503	478	461	444	442	5,946
-150	481	535	582	552	498	487	489	503	479	462	444	442	5,956
-140	482	536	583	553	499	488	490	504	479	463	445	443	5,967
-135	482	537	583	554	499	489	491	505	480	464	446	444	5,974
-130	483	537	584	555	500	489	491	505	481	464	446	444	5,980
-120	484	539	585	556	501	490	492	507	482	465	447	445	5,993
-110	485	540	587	557	502	491	493	508	483	466	448	446	6,006
-100	486	541	588	558	503	493	494	509	484	467	449	447	6,020
(-90)-East	487	542	589	560	504	494	496	510	485	468	450	448	6,033
-80	488	543	590	561	505	495	496	511	486	469	451	449	6,045
-70	489	544	592	562	506	496	497	512	487	470	452	450	6,057
-60	490	545	593	563	507	496	498	513	488	471	453	451	6,067
-50	491	546	593	564	508	497	499	514	488	471	453	451	6,076
-45	491	547	594	564	508	497	499	514	489	472	454	452	6,080
-40	491	547	594	564	509	498	500	514	489	472	454	452	6,084
-30	492	547	595	565	509	498	500	515	489	472	454	452	6,089
-20	492	548	595	565	509	498	500	515	489	473	455	452	6,091
-18	492	548	595	565	509	498	500	515	489	473	455	452	6,091
-16	492	548	595	565	509	498	500	515	489	473	455	452	6,091
-15	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-14	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-12	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-10	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-8	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-6	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-5	492	548	595	565	509	498	500	515	490	473	455	453	6,092
-4	492	548	595	565	509	498	500	515	489	473	455	452	6,091
-2	492	548	595	565	509	498	500	515	489	473	455	452	6,091
0 - South	492	547	595	565	509	498	500	515	489	473	455	452	6,090
10	491	547	594	564	509	498	500	514	489	472	454	452	6,086
20	491	547	594	564	508	497	499	514	489	472	454	452	6,080
30	491	546	593	563	508	497	499	514	488	471	453	451	6,075

40	490	545	593	563	507	496	498	513	488	471	453	451	6,068
45	490	545	592	563	507	496	498	513	487	471	453	450	6,065
50	489	545	592	562	507	496	498	512	487	470	452	450	6,061
60	489	544	591	561	506	495	497	512	486	470	452	449	6,051
70	488	543	590	560	505	494	496	511	485	469	451	449	6,040
80	487	542	589	559	504	493	495	510	484	468	450	448	6,029
90 -West	486	541	588	558	503	492	494	508	483	467	449	447	6,015
100	485	540	586	557	502	491	493	507	482	466	448	446	6,003
110	484	538	585	556	501	490	492	506	481	465	447	445	5,990
120	483	537	584	554	500	489	491	505	480	464	446	444	5,977
130	482	536	583	553	499	488	490	504	479	463	445	443	5,965
135	481	536	582	553	498	488	489	504	479	462	445	443	5,960
140	481	535	582	552	498	487	489	503	479	462	444	442	5,956
150	480	535	581	552	497	487	488	503	478	461	444	442	5,947
160	480	534	580	551	497	486	488	502	477	461	443	441	5,941
170	479	534	580	551	496	486	488	502	477	461	443	441	5,937
180	479	534	580	551	496	486	488	502	477	461	443	441	5,936



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Load Profile with Relevant Solar System

Consumption (kWh)	Solar System (kW)	Unit Generation From Solar System (kWh)
30	1	125
60	1	125
90	1	125
120	1	125
150	1	125
180	1	125
210	1	125
240	2	210
270	2	210
300	2	210
330	2	210
360	2	210
390	2	210
420	3	330
450	3	330
480	3	330
510	3	330
540	4	450
570	4	450
600	4	450
630	4	450
660	5	600
720	5	600
750	5	600
810	5	600
870	6	750
930	6	750
960	6	750
1020	6	750
1080	8	960
1140	8	960
1200	8	960
1260	8	960
1320	10	1200

1380	10	1200
1450	10	1200
1480	10	1200
1570	12	1450
1630	12	1450
1690	12	1450
1750	12	1450
1800	12	1450
1890	15	1800
1920	15	1800
1950	15	1800
1980	15	1800



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