



# Solar for Residential sector

07-04-2020

**DAVAAM**  
**solar**

1st floor, Lotia Building,  
Club Rd, Civil Lines,  
Karachi, Pakistan.  
info@davaam.pk  
0213-5680384

## Overview

Davaam has helped multiple individuals to adopt the right kind of solar solution to minimize their reliance on buying electricity from the grid (local utility). However sometimes it is not possible to install solar to cover the entire facility's demand. Solar systems have the following constraints when it comes to residences:

1. Roof size being limited. Some roofs are not flat and their slanted nature means that panels are not ideally facing the south or are not at an optimal angle.
2. Sanctioned Load. The sanctioned load from the utility puts a cap on how much solar can be net-metered.

## Goals

With grid-tied solar the idea is to install as much as constraints allow to substitute the electricity we buy from the power utility. Substituting more expensive grid electricity with solar power can bring down the overall cost of electricity.

## Specifications

[Here are two examples of customers that reduced their bills.](#)

The customer in two consecutive months had a positive bill (4,377 & 4,450) yet was not required to make any payment since the units exported through net metering was more than what the consumer bought from the electric utility. Net-Metering allows the imbalances between consumer demand (sometimes low) and solar production (peaks during daytime) to be taken into account. So even when no one is at home during the day (as is with most households), the solar production during the day may end up being extra can be sold to the utility (such as K-electric) and will be accounted for in the electricity bill. In some months there may be cases that electricity sold to the grid (through solar) is more than the electricity bought from the grid.

Here are two actual cases where residential consumers did not have to make any payments to the utility:

Residential A1-R	Invoice Number	Issue Date	Bill Month
<b>Current Month</b> موجودہ مہینہ 19°C avg temp <b>179 Units = Rs. 4,377.93</b>	520008576740	31-Jan-20	Jan-20
<b>Amount Payable</b> واجب الادائے <b>Payment Not Required</b>			
Residential A1-R	Invoice Number	Issue Date	Bill Month
<b>Current Month</b> موجودہ مہینہ 17°C avg temp <b>152 Units = Rs. 4,450.18</b>	540008614215	28-Feb-20	Feb-20
<b>Amount Payable</b> واجب الادائے <b>Payment Not Required</b>			

While the months under consideration are January & February, the extra units supplied to the utility will be carried forward which will further reduce the electricity bills in the following months.

<b>Billing Statement</b> بیل کی تفصیل	
<b>Carry Forward Balance</b>	<b>-7,420.37</b>
Your Electricity Charges for the Period	4,450.18
Net Metering Benefit	-13,528.95
<b>Outstanding Balance</b>	<b>-16,499.14</b>
Late Payment Surcharge	371.79

The above section taken from a residential client’s actual bill shows that the utility owes this customer PKR 16,499. This can be used up during high consumption months (summer months) to keep the bills low.

## Conclusion

Davaam helped residential consumers to right-size and install solar to reduce the dependence on grid electricity. Davaam continues to monitor not only the performance of this customer's system, but also monitors the billing, savings and if there are any discrepancies from the utility.

[www.davaam.pk](http://www.davaam.pk)

[info@davaam.pk](mailto:info@davaam.pk)

0213-5680384

