

Case study 5kWatt solar energy system.

Installation post code 3340 VIC

Two arrays of 250 Watt panels, 12 panels faced north at 15 degree tilt and 8 panels faced west at 22 degree tilt.

4 Bedroom house, 2 people leaving in the house, split system for heating and cooling, gas for hot water and cooking.

Table 1 History of power bills

| Bill Date | Bill amount \$ | kWH |
|-----------|----------------|------|
| 18-Mar-11 | \$298.80 | 1090 |
| 17-Jun-11 | \$299.66 | 1090 |
| 12-Sep-11 | \$284.11 | 1138 |
| 22-Dec-11 | \$246.36 | 866 |
| 12-Mar-12 | \$304.17 | 1045 |
| 14-Jun-12 | \$290.28 | 941 |
| 11-Sep-12 | \$345.91 | 1239 |
| 11-Dec-12 | \$299.51 | 903 |
| 15-Mar-13 | \$382.21 | 1157 |
| 17-Jun-13 | \$363.70 | 1058 |
| 16-Oct-13 | \$335.15 | 1024 |
| 12-Dec-13 | \$87.14 | 567 |
| 14-Mar-14 | \$90.05 | 678 |
| 17-Jun-14 | \$137.80 | 625 |

Figure 1 Immediate impact of solar, bill amount reduced by 3 times

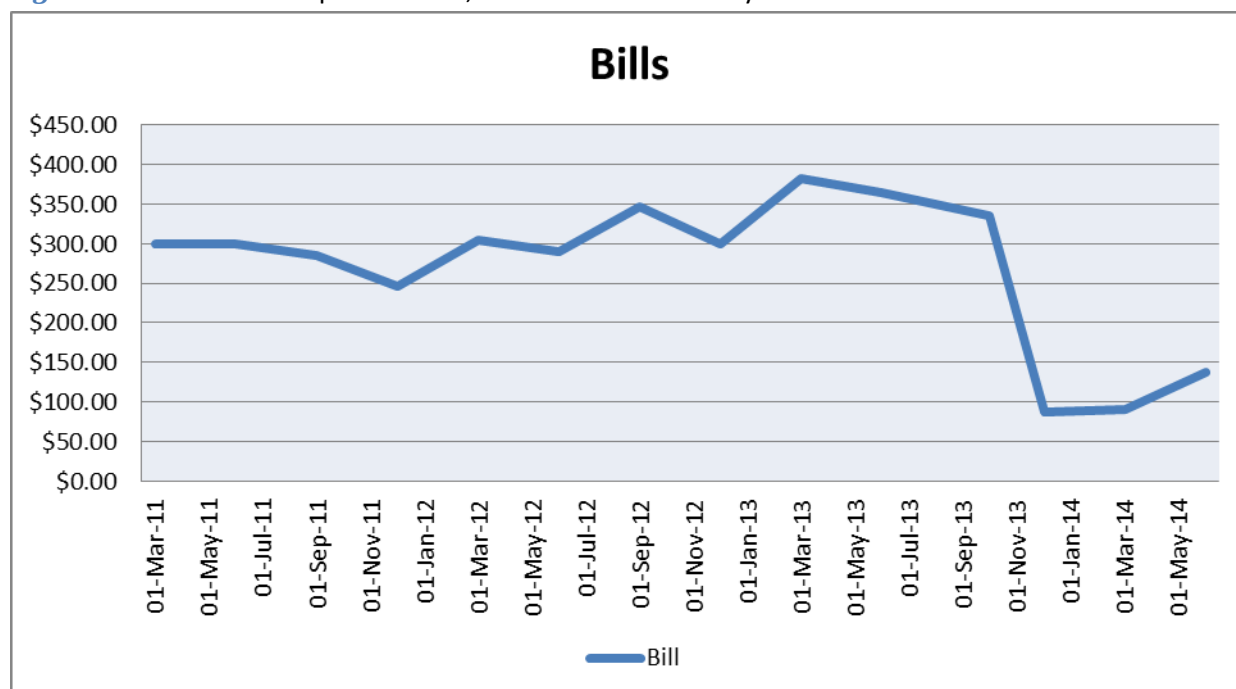


Table 2 Direct saving based on actuals bills;

Compare bills, same billing periods of 2013 and 2014

| Date | Standard Bill | Date | Solar Bill |
|----------------|-------------------|-----------|-----------------|
| 11-Dec-12 | \$299.51 | 12-Dec-13 | \$87.14 |
| 15-Mar-13 | \$382.21 | 14-Mar-14 | \$90.05 |
| 17-Jun-13 | \$363.70 | 17-Jun-14 | \$137.80 |
| Total | \$1,045.42 | | \$314.99 |
| Savings | \$730.43 | | |

This saving of \$730 represent 9 month billing period.

Table 3. Actual saving based on current prices per kWh,

To better understand real saving we use projected bills, this bills represent potential bills if no solar power connected. Projected bill generated from last year bills + 10% increase. Based on price hike from 25c to 32c per kWh from last year, which is about 25%. We use only 10% to make sure we taking in to account different tariffs.

| | solar bill | Predicted Bill |
|----------------|-----------------|-------------------|
| 12-Dec-13 | \$87.14 | \$329.46 |
| 14-Mar-14 | \$90.05 | \$420.43 |
| 17-Jun-14 | \$137.80 | \$400.07 |
| Total | \$314.99 | \$1,149.96 |
| Savings | \$834.97 | 9 month |

In this case saving is going up to \$834.97 for 9 month period.

Figure 2 Solar bill vs projected bill

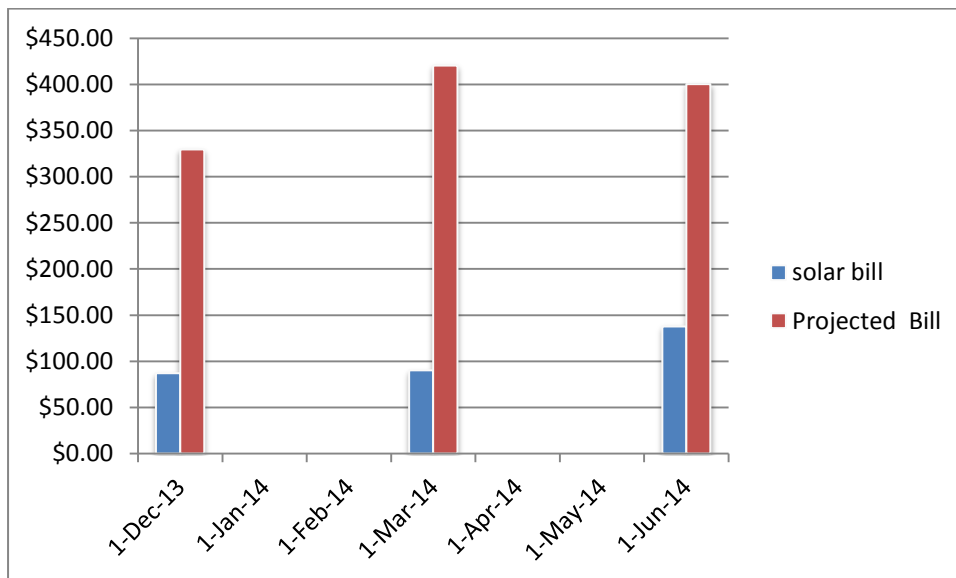


Table 4 Import, export and production.

| Bill Date | kWH imported from grid | kWH export in to the grid | KWH produced by solar | kWH consumed from solar |
|--------------|------------------------|---------------------------|-----------------------|-------------------------|
| 12-Dec-13 | 567 | 1518 | 1933.64 | 415.64 |
| 14-Mar-14 | 678 | 1808 | 2529.06 | 721.06 |
| 17-Jun-14 | 625 | 1052 | 1417.24 | 365.24 |
| Total | 1870 | 4378 | 5879.94 | 1501.94 |

Figure 3

