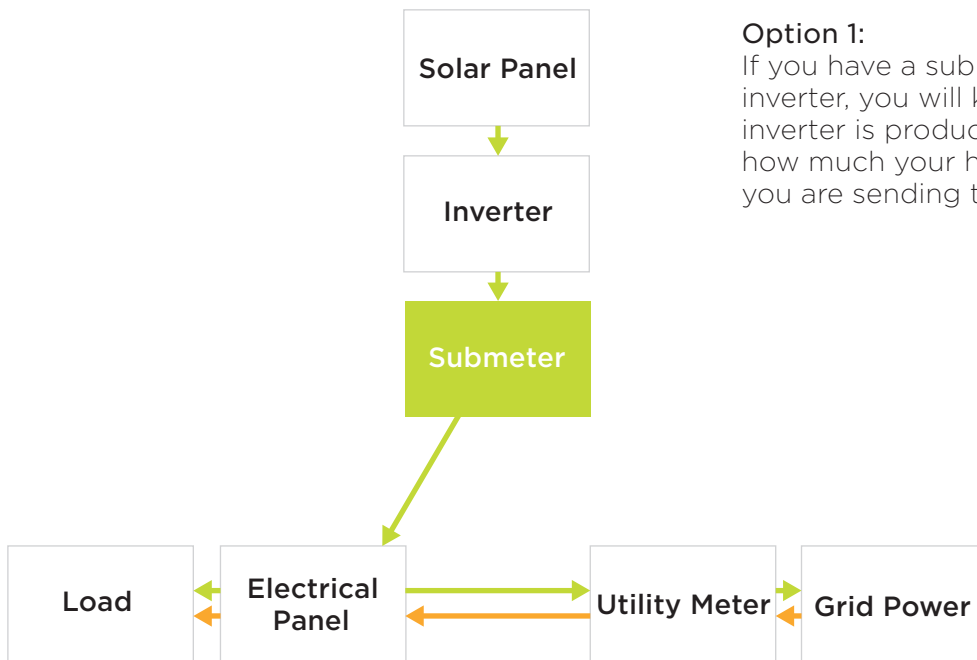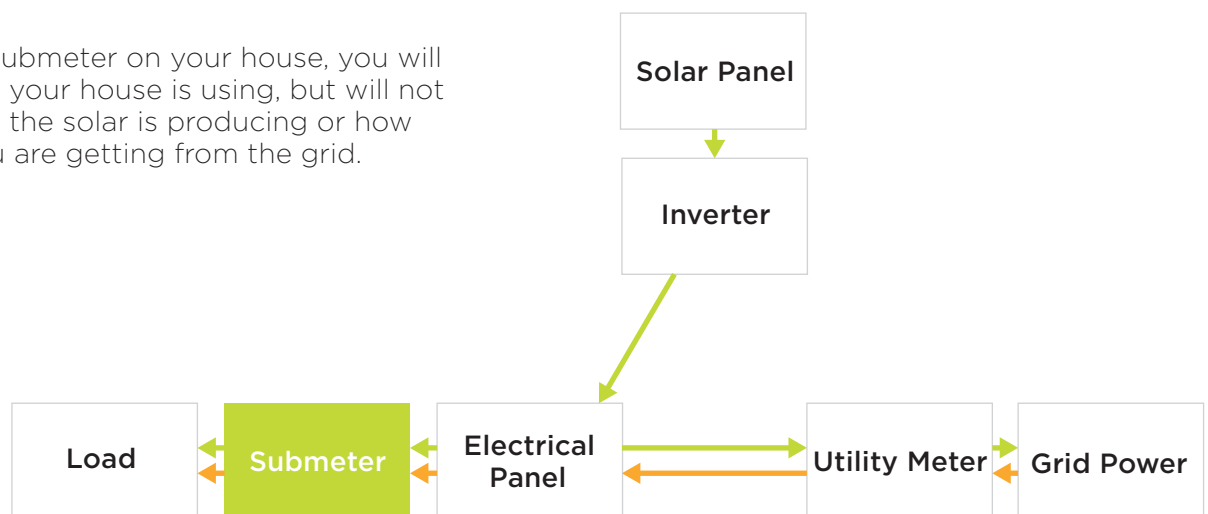## Solar Submetering **Options**

Option 1:
If you have a submeter at the output of your inverter, you will know how much power your solar inverter is producing but you will not know for sure how much your house is using vs how much power you are sending to the grid.
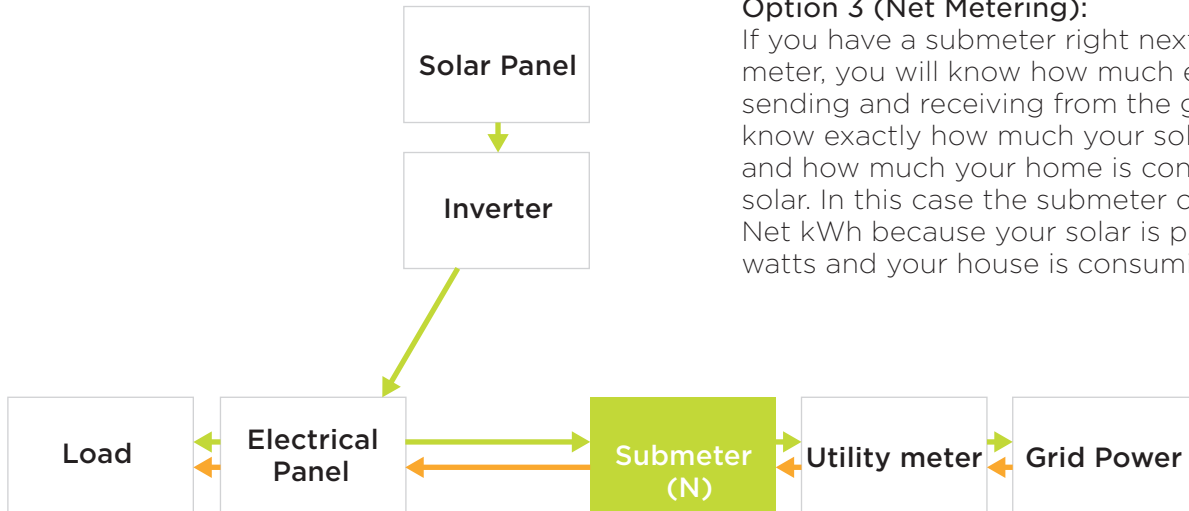
```
Solar Panel
    |
    v
 Inverter
    |
    v
 Submeter
    |
    v
Load <- Electrical Panel <-> Utility Meter <-> Grid Power
```

Option 2:
If you have the submeter on your house, you will know how much your house is using, but will not know how much the solar is producing or how much power you are getting from the grid.

```
                    Solar Panel
                        |
                        v
                     Inverter
                        |
                        v
Load <- Submeter <- Electrical Panel <-> Utility Meter <-> Grid Power
```

EKM METERING INC.

Solar Panel

↓

Inverter

Load ← **Electrical Panel** ← → **Submeter (N)** → **Utility meter** ← **Grid Power**

Option 3 (Net Metering):
If you have a submeter right next to your utility meter, you will know how much energy you are sending and receiving from the grid, but will not know exactly how much your solar is producing and how much your home is consuming from your solar. In this case the submeter could be reading 0 Net kWh because your solar is producing 3,000 watts and your house is consuming 3,000 watts.
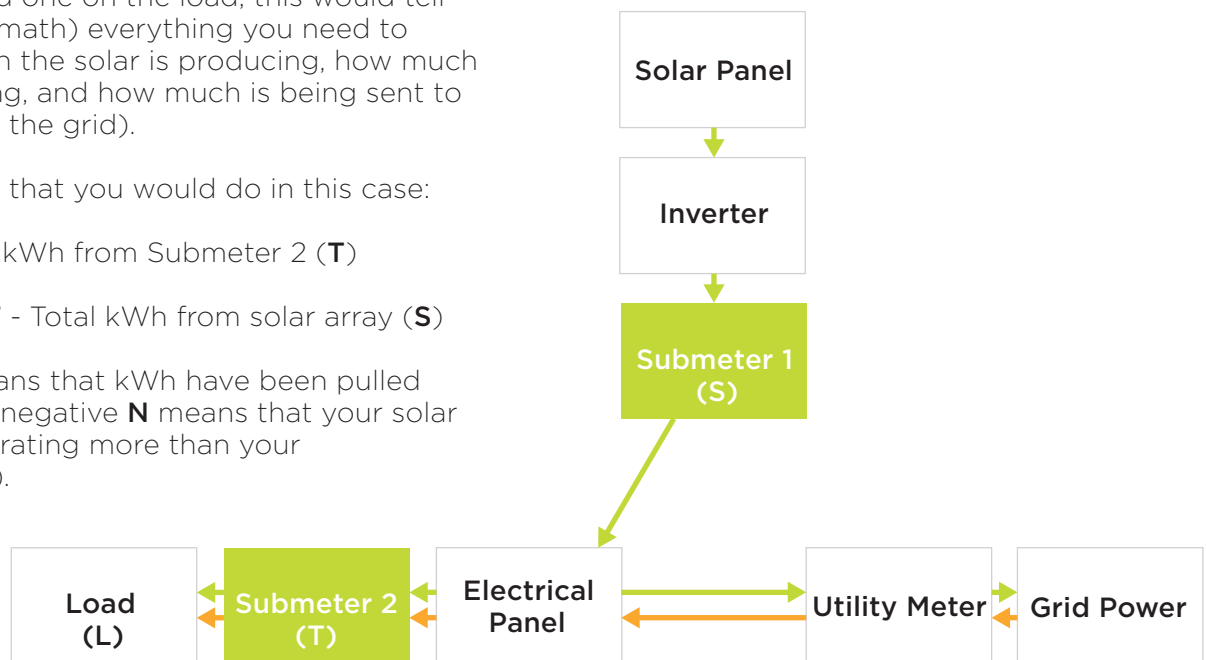
Option 4:
If you install two submeters, one on the output of your inverter, and one on the load, this would tell you (with some math) everything you need to know (how much the solar is producing, how much the house is using, and how much is being sent to or received from the grid).
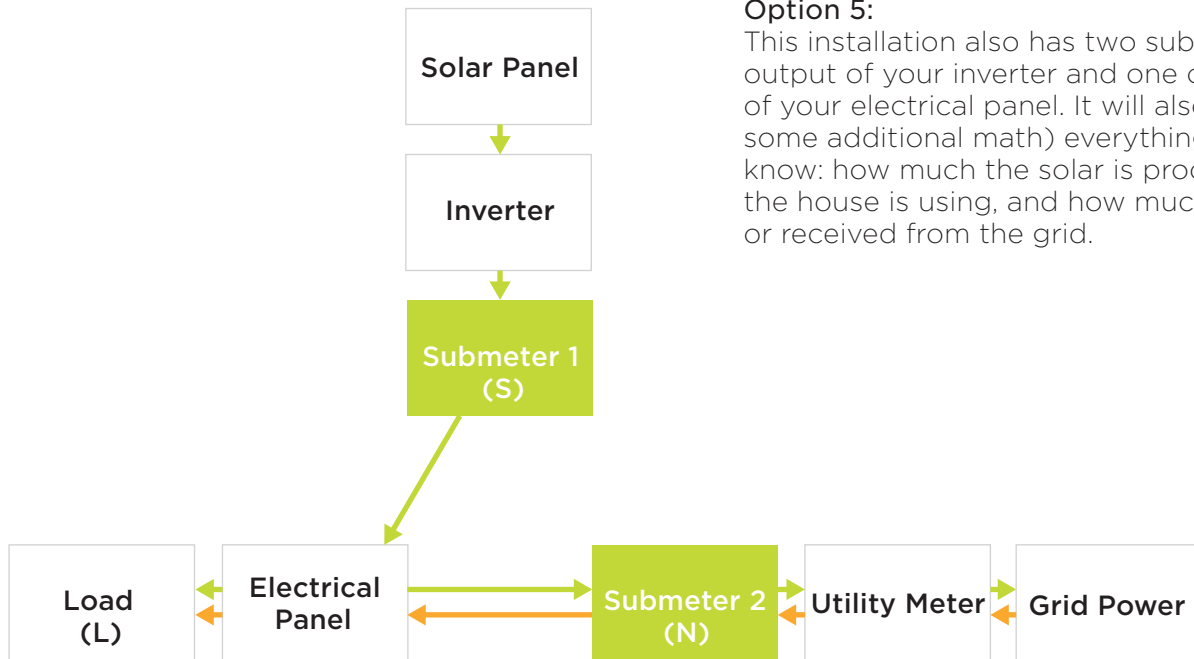
Here is the math that you would do in this case:

Load (**L**) = Total kWh from Submeter 2 (**T**)

Net kWh (**N**) = **T** - Total kWh from solar array (**S**)

A positive **N** means that kWh have been pulled from the grid. A negative **N** means that your solar array (**S**) is generating more than your consumption (**L**).

Solar Panel

↓

Inverter

↓

Submeter 1 (S)

Load (L) ← **Submeter 2 (T)** ← **Electrical Panel** → **Utility Meter** ← **Grid Power**

Option 5:
This installation also has two submeters, one on the output of your inverter and one on the utility side of your electrical panel. It will also tell you (with some additional math) everything you need to know: how much the solar is producing, how much the house is using, and how much is being sent to or received from the grid.

Here is the math that you would do in this case:

First determine your Net kWh recorded by Submeter 2.

Since Forward kWh (**F**) = Total kWh (**T**) - Reverse kWh (**R**), then Net kWh (**N**) = **T** - 2**R**

So with the addition of Submeter 1 on the solar inverter, Load (**L**) = **N** + Solar (**S**)