7. PV System Performance Analysis

The designed system is analyzed in this section using the trial version of PV SYST V6.77 simulation software. We start with the project design option from the main menu, then the location is set to Boston, which is located at latitude of 42.37N and longitude 71.06W, and the tilt angle is set to 37 degrees. The calculation variants were set as given in figure 7, and the PV module and inverter information [7] and [8] were set as given in figure 8.

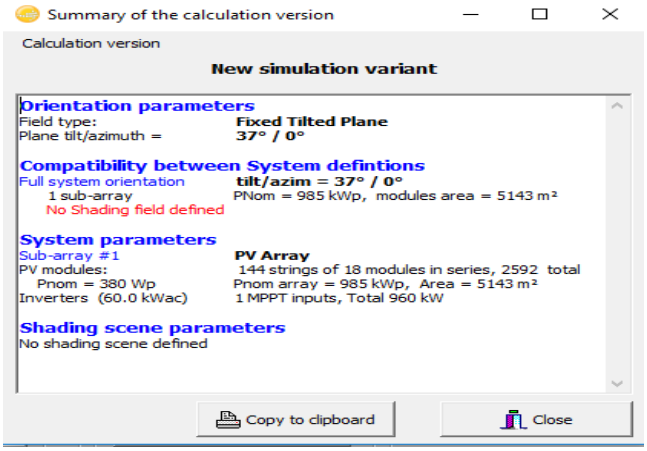

Fig. 7. Calculation variants setting in PVSYST

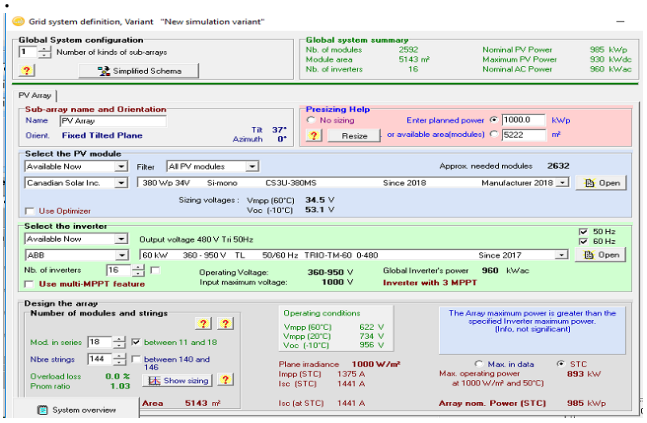

Fig. 8. PV module and inverter information

Running the PVSYST simulation results in the PV system gives us the PV system normalized that is given in figure 9. Another program that can be used for this analysis is PV WATT [9].

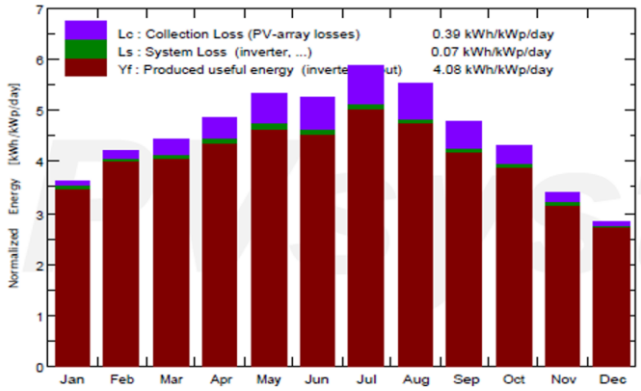

Fig. 9. PV module and inverter information

8. Conclusion

This paper presents a road map for the design of large scale photovoltaic systems. A photovoltaic system is a power system designed to supply solar power by means of photovoltaic panels. It presents a detailed design and performance analysis plan of a large-scale grid-connected PV system.

A 1 MW photovoltaic system was designed and then analyzed using PVSYST photovoltaic system performance analysis program. Computer simulations can be used to help with both the design and the analysis of PV systems. As an example MATLLA/SIMILINK was used to analyze a PV system.

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