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Abstract: Solar energy is one of the sources of power that is obtained in a natural way. Many countries, especially developing countries are making use of the renewable energy for the benefit of their communities, however, the issue of counting the benefit of using solar energy, mainly on cost bases remained undefined to many users/consumers at their premises. In this paper, the research on how thermal solar power can effectively be used in the house to minimize the cost, its requirements and the payback money upon investing on solar power is being addressed. The scenario was based on comparing the cost spends by the residential house with thermal solar power and another house without thermal solar power. The analysis shows that the electric energy saving per year when using solar power is about 51.52% for houses and flats, with payback for the investment cost within 3-4 years. The paper also discussed the building blocks for low-cost ICT infrastructures to deploy solar technologies