

# THE IMPORTANCE OF THE IMPLEMENTATION OF PHOTOVOLTAIC SYSTEMS IN RESIDENCES

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**Resumo:** Data from the Ministry of Mines and Energy have shown us that the market for small solar energy installations has been experiencing an exponential increase since 2001, when a blackout caused damages to the economy and drawbacks to all Brazilians, as well as some changes in regulatory legislation, Implemented by ANEEL in November 2015, promoted reductions in the acquisition of photovoltaic systems, sometimes the credit gain, based on the amounts of energy produced in consumer bills and a greater investment of companies in the energy sector in Brazil. Even so, the Ministry of Mines and Energy itself, through a survey completed on December 31, 2013, shows that Brazil had an installed capacity of 126,755 MW. In terms of energy sources, the Brazilian energy matrix has the following capacity distributed in: 86,019 MW of hydroelectric plants; 38,529 MW of thermoelectric plants; 2,202 MW of wind power; 5 MW of solar photovoltaic. That is, solar energy represents less than 0.005% of installed capacity. Based on the data set out above and on item XVII of Article 1 of the Principles and Objectives of Energy Policy contained in Law 9.478 of August 6, 1997, "to promote research and development related to renewable energy", this work Was developed with a focus on the habit change proposal of the Brazilian families belonging to economic classes C and D, regarding the use of photovoltaic systems that meet their needs regarding energy consumption by means of interior lighting of residences, coming to enjoy the good Amount of solar radiation available in the region in the average annual value corresponding to 16 MJ / m<sup>2</sup>.day, according to the Solarimetric Atlas of Brazil, published by ANEEL in 2000. The standards ABNT NBR 5410 and 5413 were used as reference standard for comparison of intensities Lighting systems of commercial type LFC and LED lamps with LED-panel lamps new arrivals in the local market. Based on the study, an illustrative model was built to disseminate this proposal in elementary schools in the metropolitan area of Belém do Pará.

**Keywords:** Energy Matrix, Solar Energy, Photovoltaic.