

# Desarrollo de la Energía Solar Fotovoltaica en Latinoamérica

## Development of Photovoltaic Solar Energy in Latin America

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**Resumen**—La energía solar es una de las mejores fuentes de energía renovable debido a su carácter inagotable y fácil implementación. En los últimos años, países europeos como España y Alemania han realizado grandes avances en el desarrollo de tecnologías de producción de energía solar térmica y fotovoltaica, y constituye un ejemplo internacional sobre los beneficios económicos y socioambientales que pueden emular los países latinoamericanos con la implementación de estas tecnologías de generación distribuida.

**Palabras Clave**— Energía Solar Térmica, Energía Solar Fotovoltaica, Fococeldas, Generación Distribuida

**Abstract**— Solar energy has become among the best sources of renewable energy because of its inexhaustible nature and ease of deployment. In recent years, European countries such as Spain and Germany have made great advances in the development of technologies for the production of both photovoltaic and thermal solar energy, turning themselves as examples of environmental and economic benefits for Latin-American countries with the implementation of these kind of technologies for distributed generation.

**Keywords**— Thermal, Solar Energy, Photovoltaic Solar Energy, Photovoltaic Cells, Distributed Generation.

### 1. INTRODUCTION

Energy generation from fossil fuels increases pollution and contributes to the reduction of the planet's non-renewable natural resources. These facts constitute an incentive to develop alternative energy sources at the global level as a

priority, since it does not create pollution and tends by the preservation of the environment.

Besides, providing electricity services to remote communities that currently do not have access to them, constitutes an issue of vital importance in Latin American countries. Unfortunately, in most of these delivering electric power is not profitable the traditional form. This is explained due to long distances and to relatively small demands that do not imply financial return on high costs of investment. The solar energy as a source of renewable energy, which is characterized by its inexhaustible nature and ease of deployment, the converted one of the best options to resolve this problem.

Nowadays, the great progress that has been made in the world in the technologies of distributed generation, especially those relating to photovoltaic and thermal solar energy, especially in European countries such as Spain and Germany, provide benefits on both economic, environmental and social aspects, that could be also achieved by Latin-American countries, as they give more importance to this kind of distributed generation.

The main objective of this technical contribution relates to the reviewing of the current level of development of solar energy in Latin America, including the developed technologies and the main barriers to their development.

### 2. METHODOLOGY

#### 2.1. Systematic Literature Review (SLR)