

# Energy decentralization in Rwanda

D. Nshimiyimana<sup>1\*</sup> and A. Khellaf<sup>2</sup>

<sup>1\*</sup>PAUWES Institute, Panafrican University, Pole de Chetouane, Tlemcen, Algeria.

<sup>2</sup>Centre de Développement des Energies Renouvelables, BP62, Bouzareah, Algiers, Algeria.

## *Abstract*

---

Energy has been described as the ‘missing’ Millennium Development Goal (MDG), the catalyst without which other goals such as health, education and gender equality cannot be achieved. Rwanda has significant renewable energy resources. Despite those resources, Rwanda electrification rate is still very low at only 23% and most of remote and rural areas are not connected to the grid network due to the insufficient power production and high capital cost for grid network extension. It was reported that by the end of 2015 the installed electric power was at 177.2MW and the energy consumption from modern energy was dominated by hydro with 137.5MW followed by 28.5MW of thermal and 11.15MW coming from solar. Compared to the renewable energy resources that the country is endowed with, this value has to improve. In order to achieve the sustainable energy for all, the use of renewable energy and energy decentralization are considered as the most cost-effective ways that will facilitate the population for having access to energy. As it is mostly known that households are the main consumers of energy and within the pressing challenges of rapid energy demand, increased pollution and need to integrate renewable energy sources into the existing grid; energy decentralization has become an ever important solution. By gradually changing the energy distribution method, decentralization may evolve by means of resources and strategies but its fundamental objective which is mainly to satisfy the side demands will not change.

The paper presents the Rwanda renewable energy potential. It gives a clear view on the energy demands side and goes ahead discussing on the decentralization of different modern energy technologies.

---

**Key words:** Renewable energy; Households; Decentralization; Energy technology; Sustainable energy.

\*Corresponding author: Nshimiyimana Devotha

Email address: n.dedevota@gmail.com

Telephone: +250 783 814 308