

# Spatial Object Oriented Approach for Modeling Roof Solar Potential in Cagayan de Oro City Using LiDAR Technology

The Philippines is a tropical country and long considered as prolific habitat of solar energy due to the abundance of natural sunlight and heat. The country's growth of population that is heavily dependent on electrical grids with market prices that is considerably rising, associated with the underused of natural energy resources and increasingly environmental threads of climate change affirms for renewable power source that is clean and dependable. This paper aims to provide automated estimates of solar potential for residential rooftops in the locality of Cagayan de Oro city utilizing high resolution aerial imagery and low density Light detection and Ranging (LiDAR) data. Analysis is executed through an object-based image analysis (OBIA) platform using machine learning criterion, filtering algorithms and remote sensing techniques.