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Solar Energy Statistics for Potential Development and Future Applications

Solar Energy has proven to be the most utilizable and abundant source of energy that is viable to planet Earth. Earth's surface area of 510.8 million km2 receives a fall of 174 PW (1PW= 1015 W) of solar energy constantly every hour. The energy that reaches the ground however remains highly variable. Out of the previously stated output, 30% is reflected back
by the Ozone. Considering even a loss of 45% energy by rounding off the altitude variation, canopy shades the power output would still estimate at up to 113 PW of energy. For reference, the earth only utilizes 19.2 TW of energy per hour (according to the International Energy Agency) this would indicate that the energy transmitted by the sun per hour is enough to power the earth for 8 months entirely for the necessary energy demand of 19.2 TW energy per hour. Yet even after such an amount of energy is available outside, conventional methods of generating electricity pollute the earth to irreversible damage and are subject to great amounts of power wastage. The objective of this study is to review the theoretical application of solar energy and determine its energy generation suitability.

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