

# **Solar Power Generation Highway Service Station**

How much solar power can be generated on highways?

The assessment results of the solar power generation on the slopes of different highway segments are illustrated in Table A7, and the overall solar power generation potential of the studied highway section was found to be 3,896,061.68 kWhin total. 5. Summary and Conclusions

#### Can solar power be used on Highway slopes?

To facilitate the large-scale utilization of solar energy on highway slopes, it is necessary to provide practical calculation and assessment methods for the power generation potential in order to support the PV power generation system's decision-making, planning, and design processes for project-level and network-level applications.

# Can solar energy be installed in highway rights-of-way?

After considering costs and benefits, some State departments of transportation have chosen to meet a portion of their electricity needs by installing solar energy projects in highway rights-of-way (ROW) and at other State DOT facilities.

#### Can highway tunnel segments receive solar energy?

Furthermore, highway tunnel segments cannot receive solar radiation. When calculating the total solar energy potential of highways, the solar energy received by tunnel segments should be subtracted to achieve a more precise solar energy potential estimate.

## How can the assessment method be used for Highway PV power generation?

The assessment method could help with the estimation of the solar energy utilization potential of highway slopes and facilitate decision making and scheme selection the planning and design stages of highway PV power generation system projects.

## What is the power generation potential of the highway section?

The overall annual power generation potential of the highway section was found to be 3,896,061.68 kWh. Conceptualization,A.S. and L.H.; methodology,Z.H.; software,W.Z.; validation,Z.H.,W.Z.,and R.W.; formal analysis,Z.H.; investigation,W.Z.; resources,A.S. and L.H.; writing--original draft preparation,W.Z.; writing--review and editing,Z.H.



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