**Impact of irradiance data source on solar PV potential: A comparative assessment in Gyeonggi province, South Korea**

Seungho Jeona,[[1]](#footnote-2)\*,

a *Climate & Environment Data Center, Gyeonggi Research Institute, South Korea*

**Abstract**

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**Keywords:**

1. Introduction

→ Importance of accurate solar PV potential estimation

→ Most studies use a single irradiance dataset, rarely comparing results from multiple sources

→ This study uses two credible datasets (KIER, KMA) and compares their implications across three potential levels: theoretical, technical, and market

→ We emphasize the disproportionate impact of data source choice on market potential due to the structure of the LCOE formula.

1. Materials and Methods
   1. Study Area

→ Overview of Gyeonggi province (demographics, energy demand, PV deployment status)

→ Spatial resolution and grid specification

* 1. Irradiance Data

→ KIER: TMY (Typical meteorological year)

→ KMA: 1.5km 격자 간격을 가지는 기상청 현업 국지예모델(LDAPS)의 일사량 자료에 고해상도 지형자료를 이용하여

* 1. Potential Definitions

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* 1. LCOE calculation

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1. Results
   1. Irradiance comparison
   2. Theoretical and technical potential comparison
   3. Market potential comparison
2. Discussion

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1. Conclusion

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**CRediT authorship contribution statement**

**Seungho Jeon:**

**Declaration of competing interest**

The authors declare that they have no know competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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This work

References

1. \* Corresponding author.

   *E-mail addresses:* [shjeon@gri.re.kr](mailto:shjeon@gri.re.kr) (S. Jeon) [↑](#footnote-ref-2)