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<td><strong>Docket Number:</strong></td>
<td>19-ERDD-01</td>
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<td><strong>Project Title:</strong></td>
<td>Research Idea Exchange</td>
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<td><strong>TN #:</strong></td>
<td>232039</td>
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<td><strong>Document Title:</strong></td>
<td>Greg P Smestad Comments – Key References (Solar PV and CSP Initiatives)</td>
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<td><strong>Description:</strong></td>
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<td><strong>Organization:</strong></td>
<td>Greg P. Smestad</td>
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<td><strong>Submitter Role:</strong></td>
<td>Public</td>
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<td><strong>Submission Date:</strong></td>
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Greg P. Smestad Comments “Key References (Solar PV and CSP Initiatives)

I have read through the full draft roadmap and I am concerned about some of the references, or lack of quality references, connected to the initiatives dealing with solar energy. I have carefully selected the references below...

https://doi.org/10.1021/acs.jpclett.7b02277

A file is attached/submitted to the docket as a searchable PDF in compliance with the requirements.

Additional submitted attachment is included below.
Re: EPIC Research Roadmap on Utility-Scale Renewable Energy
Docket Number: 19-ERDD-01
Greg P. Smestad Comments – Key References (Solar PV and CSP Initiatives)

I have read through the full draft roadmap and I am concerned about some of the references, or lack of quality references, connected to the initiatives dealing with solar energy. I have carefully selected the references below and I recommend that they be included in the final roadmap as key peer-reviewed published references so that the CEC, its partners and collaborators can better utilize and successfully act on this roadmap. To verify the relevance of these references, the reader can simply read the title of the article and then access the article itself via the indicated websites. I have divided and separated my recommendations by the roadmap’s initiatives indicated below.

**Initiative SPV.1: Field Test Tandem Material PV Cells**
Existing Key Published References: Green et al. (2018), Wikipedia (2019)
Recommended replacements for the Wikipedia entry:
There is a global consensus on the ways in which stability of perovskite solar cells should be assessed and reported. This consensus statement article was published in the Nature Research (Publishing) journal Nature Energy.


[https://pubs.acs.org/doi/abs/10.1021/acs.jpclett.7b02277](https://pubs.acs.org/doi/abs/10.1021/acs.jpclett.7b02277)

If the Wikipedia entry cannot be replaced, then I recommend the three references above be included in addition to the existing references. The key here is outdoor or field performance.

**Initiative SPV.2: Increase PV Material Recovery from Recycling Processes**
Existing Key Published References are sufficient.
I do recommend that the final roadmap include one more:
5.6.1 Communication Master Plan publication, ZABALA Innovation Consulting, 2018.
Freely available at: https://www.circusol.eu/en/resources/circusol-publications
CIRCUSOL project (Circular business models for the solar power industry) is a new initiative funded by the Horizon2020 Programme of the European Commission, EU.

**Initiative CSP.1: Improve Cleaning Systems for CSP Mirrors**
Existing Key Published References: Griffith et al. (2014).
This is incomplete and insufficient. I recommend that you also include:
Philipp Bellmann, Fabian Wolfertstetter, Ricardo Conceição, Hugo G.Silva, Solar Energy, Comparative modeling of optical soiling losses for CSP and PV energy systems, Volume 197, February 2020, Pages 229-237.

https://doi.org/10.1016/j.joule.2019.08.019

These can be cited and/or references from within these two peer-reviewed journal articles. At least one of these recommendations has been previously posted as TN# 231953, 2/05/2020. The references above also connects to and supports the statement in the draft roadmap’s Areas for Advancement (page 39), “There is an opportunity to build upon international experience in CSP mirror cleaning.”

**Initiative CSP.2:**
Key Published References: There are only two, but they are sufficient.

Please feel free to contact me about these recommendations. Thank you for your attention to this matter.

Sincerely,

Greg P. Smestad, Ph.D.
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http://www.solideas.com