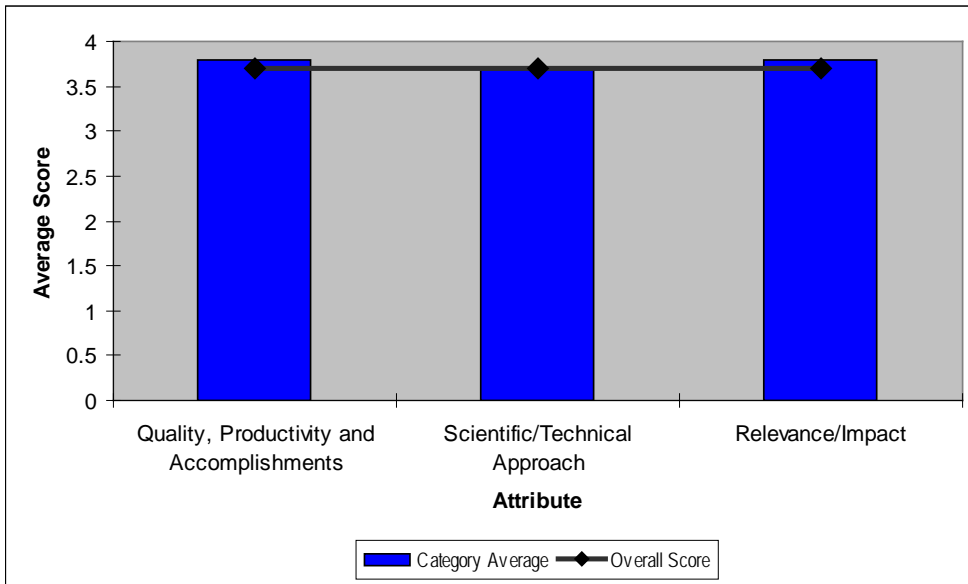


Solar Programmatic Environmental Impact Statement (PEIS)
Principal Investigator: Heidi Hartmann, Argonne National Laboratory



Details ANL’s work conducting Programmatic Environmental Impact Statements (PEISs) in support of agency-specific projects. PEISs evaluate the impacts associated with utility-scale solar development and identify environmental guidelines and mitigation measures for DOE-supported utility scale projects or projects on BLM-administered lands. The goal is to increase deployment of solar technologies and reduce costs of solar energy.

Quality, Productivity and Accomplishments (Average Rating 3.8)

Rating Comments

- 3.0 The team assigned to this project seems appropriate.
- 4.0 The composition and quality of the resources engaged is superior quality since the project team and the Argonne Lab has extensive experience in conducting similar projects, as demonstrated by the following list: the Trans-Alaskan Pipeline Renewal EIS (BLM 2002), the Imperial-Mexicali 230-kV Transmission Lines EIS (DOE and DOI 2004), the Wind Energy Development Programmatic EIS (BLM 2005), the Outer Continental Shelf Alternative Energy Development PEIS (MMS 2007), the Oil Shale/Tar Sands PEIS (BLM 2008) and the West-Wide Energy Corridor PEIS (DOE and BLM 2008). The productivity has been satisfactory; in May 2008 the Notice of Intent was published and 11 public scoping meeting have been conducted in 6 study area in AZ, CA, CO, NV, NM, and UT. The Summary of Public Scoping Comments Received During the Scoping Period for the Solar Energy Development Programmatic Environmental Impact Statement has been published. The accomplishments to date has met or exceeded the expectation. It would have been valuable if the presentation included the environmental impacts of the different CSP technologies (a technology specific analysis).
- 4.0 An appropriate number of people, with well recognized technical credentials, have been engaged in this project. The members of the team and collaborators clearly demonstrate their ability to contribute to the project. The facilities deployed on the project appear to be adequate, but limited, for the task at hand. The work under way is producing an appropriate level of accomplishment relative to the costs incurred. The project team appears to be on schedule, but the project is clearly still in progress and not yet complete.
 Programmatic Environmental Impact Statement

Argonne National Laboratory
EERE – Tex

DOE and BLM co-sponsors of this task
20 year study period covered by the PEIS
Facilitate utility scale solar development – looking at environmental impacts
BLM 256 million acres of land
PEIS assesses states for AZ, CA, CO, NM, NV, UT
Wind energy EIS was the template that the solar EIS was started from
BLM needs to have their land use plan to include and allow for uses such as wind and solar energy development
Received 16,000 comments during the scoping period, about 14,000 of which were from letter writing campaigns
Google “Solar PEIS website” for scoping document
Nellis Air Force Base has the largest PV system operating in the USA -14 MW
BLM currently has 200 applications for projects on their land, most CA and NV
3 federal agencies, defense, fish and wildlife, forrest service
Release draft for public comments, due august 2009, \$2M budget

4.0 Evaluates environmental impacts associated with utility scale solar energy development

BLM has ownership on 256,000 acres
14,000 of the total 16,000 comments were from environmental groups
BLM has 200 application in California and Nevada
Cooperative agencies were identified
Western Governors’ study
Western Zones study
RETI studies

Drafted mitigation measures
6 state development area
Develop a programmatic environmental strategy – to consider amount of water required for cooling or dry cooling.
National conservation
47 million acres available
Special management area – half of land is cut off

Scientific/Technical Approach (Average Rating 3.7)

Rating	Comments
---------------	-----------------

3.0	The technical approach seems appropriate.
-----	---

3.8	The approach is sharply focused with identification of all (12) the potential areas of impact. Work being coordinated with WREZ and RETI. There is supposed to be a chapter on technology. Where is it? During the scoping process, received 16,000 comments. BLM controls 256 million acres of land and has over 200 applications.
-----	---

4.0	Largely driven by regulatory requirements, appears right on track.
-----	--

3.9	In the PEIS, the impacts are assessed for the following resource areas and values: <ul style="list-style-type: none">• land use• water resources• air quality• ecological resources and threatened and endangered species,• environmental justice• geologic setting and seismic hazard
-----	---

- transportation impacts
- health and safety assessments, etc.

The impacts related to land use (and associated habitat disturbance) and water use are compared for the parabolic trough, power tower, dish engine, and PV technologies. This will lead to the development of environmental strategies and mitigation measures, which can be used for the DOE-supported solar energy development projects, and utility-scale projects to be located on Bureau of Land Management-administered lands.

Relevance/Impact (Average Rating 3.8)

Rating	Comments
3.0	The execution of the project will facilitate the development of commercial CSP plants. In so doing, it will contribute to the cost reduction of CSP technologies.
4.0	A highly relevant and essential project for CSP development, as indicated by the number of applications (200) totaling over 80,000 MW of potential electric power development in BLM land. This PEIS will greatly reduce the project development and licensing time for CSP projects in BLM lands.
4.0	<ul style="list-style-type: none"> -PEIS does not replace the site specific EIS, but can provide a strong starting point -Parabolic trough 5 acres per MW, others 9 acres per MW - many of the applications are requesting a lot larger land area than that -Fresnel system are being considered, and grouped with CSP and -Many of the applications are for hybrid systems -Impacts of using natural gas use at the facility, eg using natural gas to keep fluids above freezing. -Some of the 12 impacts are common impacts, other impacts may be technology specific (such as water use). -Lands with slope greater than 5% are generally excluded -47 million acres of land available for possible use after first cut at lands excluded, -Estimate actual upper limit of about 25million acres of land -Air Quality Impacts including Emissions avoided -Visibility from Class 1 areas such as national parks are a concern -Trough and power tower can have a significant number of workers during operation, while most have large number during construction
4.0	<p>Of the 10 impacts considered, which of those 10 do you think can really be done at the programmatic level, and which more inherently need to be done at the site-specific level?</p> <p>The staff is highly qualified and has extensive expertise in environmental assessment, such as:</p> <ul style="list-style-type: none"> • hydrology • air quality • ecological resources • visual resources • acoustic • socioeconomics • environmental justice, etc.

Overall (Average Rating 3.7)

Rating	Comments
3.0	This is a very specific and well targeted project that will facilitate the development of commercial CSP plants. In so doing, it will contribute to the cost reduction of CSP technologies.

- 3.8 A highly relevant and essential project for CSP development, as indicated by the number of applications (200) totaling over 80,000 MW of potential electric power development in BLM land. This PEIS will greatly reduce the project development and licensing time for CSP projects in BLM lands.
- 4.0 Excellent impact, and return on investment. Do the bulk of the EIS once, and do it well, prevent so many future problems from rising up on individual projects. Highly leveraged use of funds and resources. Time and money well spent.
- 3.9 The staff is doing an excellent job of using PEIS analyses and implementing technology performance goals for DOE-supported projects. They are also facilitating the amendment of land use plans by BLM to facilitate solar development on public lands. EIS will facilitate utility-scale solar developments, and will increase deployment of solar technologies. This will ultimately help to reduce costs of solar energy to competitive levels.

SOLAR PEIS – This is a good project that can lower barriers for entry to the industry. The work performed is excellent work. Continuation of this effort is recommended.