Elements of BLM's Proposed Solar Energy Program

- Identifies lands to be excluded from solar energy development, such as:
  - lands with low solar resource potential and high slope
  - critical habitat for listed species under the Endangered Species Act
  - wilderness, and other high-conservation-value lands
  - lands with high visual resource value
  - important historic locations
  - After the above exclusions, approximately 22 million acres of BLM-administered lands would be available for application under the solar energy development program alternative

- Identifies priority areas within lands open to solar energy development that are best suited for utility-scale production of solar energy (solar energy zones or SEZs), based on criteria including:
  - proximity to roads and transmission lines or designated corridors
  - generally, size of 2,500 acres (8.1 km^2) or greater
  - existing land use plans, local conditions, and institutional knowledge
  - A total of approximately 677,400 acres of BLM-administered lands are included in proposed SEZs (only these lands would be available under the solar energy zone program alternative)

- Establishes policies for utility-scale solar energy development on public lands:
  - Administration policies that prioritize development within SEZs, emphasize early coordination with potentially affected stakeholders, and include adaptive management plans to ensure environmentally responsible development
  - Authorization policies that emphasize pre-application meetings and application analysis prior to the initiation of NEPA, focusing agency resources on those projects that are well sited and most viable

- Establishes mitigation requirements (called "design features" in this PEIS) for utility-scale solar energy development on public lands to ensure the most environmentally responsible development and delivery of solar energy. The design features include:
  - Requirements for mitigation of impacts across a broad range of resources of concern (for example, specially designated areas, recreation, water, ecological, visual, cultural, socioeconomic, health and safety)
  - Requirements for many project-specific mitigation plans (for example, dust abatement, ecological resource mitigation, habitat restoration and management)

- Amendment of land use plans to incorporate the new Solar Energy Program
  - Identifying lands excluded from development and lands where development will be prioritized
  - Adopting policies and design features required for solar energy development on BLM-administered lands

Solar PEIS Alternatives and Reasonably Foreseeable Development Scenario (RFDS)

BLM Alternatives and RFDS

- BLM's two **Action Alternatives** would establish a new Solar Energy Program of policies and required design features.
  - the **Solar Energy Development Program Alternative** makes about 22 million acres of land available for application, prioritizes development in Solar Energy Zones (SEZs, total of about 677,400 acres)
  - the **Solar Energy Zone Program Alternative** makes only lands within the SEZs available for application

- The **No Action Alternative** continues use of existing solar energy policies in conformance with applicable land use plans. Solar energy ROW applications could be considered on about 99 million acres of BLM-administered land (where such use is not specifically prohibited).

- The **RFDS** is the amount of power projected to be generated through solar energy development in the 6-state study area through the year 2030. It is estimated as about 24,000 MW on 214,000 acres of BLM-administered lands. The RFDS applies to all three BLM alternatives.

DOE Alternatives and RFDS

- DOE's **Action Alternative** would develop programmatic guidance to further integrate environmental considerations into its analysis and selection of solar projects that it will support.

- Under the **No Action Alternative**, DOE would continue to conduct environmental reviews of DOE-funded solar projects on a case-by-case basis.

- DOE can support solar projects on any lands, therefore the **RFDS** is higher under the DOE alternatives; it is estimated to be about 32,000 MW on 285,000 acres of public and non-public lands through the year 2030. The RFDS applies to both DOE alternatives.

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Reasonably Foreseeable Development Scenario (RFDS) Estimates Using the RPS Model

The RFDS was calculated based on each state's renewable portfolio standard (RPS), the legislatively required percentage of total future electricity sales to be supplied by renewable energy sources by a specified future date.

- Purpose:
  - Estimates of development are needed to project the amount of land use and overall impacts.
- Methodology:
  - Identify each state's RPS requirements;
  - Identify current capacities, generation, and electricity sales statistics and apply projected growth rates to determine anticipated total electricity sales for each state;
  - Apply RPS requirements to determine anticipated renewable energy development needed;
  - Calculate the amounts of energy and associated capacities for solar power, using several assumptions.
- Assumptions:
  - 75% of solar energy development would occur on BLM-administered lands
  - Up to 50% of the RPS-based requirement for renewable energy production would be provided by solar energy
  - Acreage was calculated assuming land use of 9 acres/MW
  - Did not account for potential import/export of electricity between states
- Estimated Total Solar Energy Capacity in the Six States by 2030:
  - BLM-administered lands: 4,734–23,791 MW
  - Non-BLM administered lands: 1,592–7,930 MW

State Renewable Portofolio Standards

Assumes maximum of 50% from Solar (the rest would come from other renewable energy sources), and 75% of total development would be on BLM-administered lands.

RFDS on BLM-Administered Lands	
Arizona	2,424 MW
California	15,421 MW
Colorado	2,194 MW
Nevada	1,701 MW
New Mexico	833 MW
Utah	1,219 MW
Total	23,791 MW

Corresponding Land Use (MWx 9 acre/MW)	
Arizona	21,816 acres
California	138,789 acres
Colorado	19,746 acres
Nevada	15,306 acres
New Mexico	7,497 acres
Utah	10,971 acres
Total	214,119 acres

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Land and Water Use by Solar Facilities

Summary of Land Use and Water Requirements by Solar Energy Technology*

Parameter	Parabolic Trough	Power Tower	Dish Engine	PV
Land Use Requirements (acres/MW)	5	9	9	9
Water Use Requirements (ac-ft/yr/MW)				
Wet Cooling	4.5-14.5	4.5-14.5	NA	NA
Dry Cooling	0.2-1.0	.01-1.0	NA	NA
Hybrid System	0.9-2.9	0.9-2.9	NA	NA
Mirror/panel washing	0.5	0.5	0.5	0.05

* For comparison, the average annual per-capita water use in the six-state study area is 0.25 acre-ft/yr and the average water used on each acre of irrigated farm land is 3.88 acre-ft/yr.

Corresponding Values for Proposed Imperial East SEZ, California (4,578 acres*)

Parameter	Parabolic Trough	Power Tower	Dish Engine	PV
Maximum Power Capacity (MW) for Land Area	916	509	509	509
Maximum Water Use Requirements (ac-ft/yr) (includes mirror/panel washing and potable supply)				
Wet Cooling	4,591-13,746	2,549-7,635	NA	NA
Dry Cooling	654-1,387	362-769	NA	NA
Non-Cooled Technologies	NA	NA	260	26

*PEIS assumes 80% of the SEZ area will be developable.

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Solar PEIS Timeline

Public Scoping

- Initial scoping period: May - July 2008
- Second scoping period: June - September 2009

Draft PEIS

- Notice of Availability for Draft PEIS: December 17, 2010
- Public Comment Period: December 17, 2010 - March 17, 2011

Final PEIS

- Schedule to be determined based on numbers and types of comments received
- Publication anticipated Fall 2011

Record of Decision (ROD)

- Expected one to two months after publication of Final PEIS

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How to Comment on the PEIS

There are 3 ways to provide comments:

1. Oral Comments at this public meeting

- Sign up to speak at the registration desk
  - Speakers will be called in the order of sign-up; those who registered on the project website will be called first.
- Making an oral comment
  - State your name and affiliation
  - Limit comments to content of Draft PEIS
- Comments will be recorded in transcripts that will be posted on the project website

2. Online Written Comments via the project website:

- Use the online comment form at: http://solareis.anl.gov/involve/comments
- Attachments of up to 15 MB can be included.

3. Mailed Written Comments and/or Supplemental Material

- Mail to: Solar Energy PEIS
  Argonne National Laboratory
  9700 S. Cass Avenue – EVS/240
  Argonne, IL 60439

Comments will be accepted through March 17, 2011.

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