

DOCKETED

Docket Number:	19-ERDD-01
Project Title:	Research Idea Exchange
TN #:	224650
Document Title:	Agenda - Staff Workshop - Research Needs for Thin-film Photovoltaic Technologies
Description:	Agenda for September 7, 2018 Staff Workshop
Filer:	Patty Paul
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/5/2018 3:32:25 PM
Docketed Date:	9/5/2018



Staff Workshop Research Needs for Thin-film Photovoltaic Technologies

**September 7, 2018
9:00 AM**

**1st Floor - Arthur Rosenfeld Hearing Room
1516 Ninth Street, Sacramento, CA 95814-5512**

(Listed times are general guidelines only)

The purpose of this workshop is to identify thin-film photovoltaic (PV) technologies that have the potential to meet the DOE SunShot Program's targets of levelized cost of electricity (LCOE) and to determine research needs and opportunities that would enable improvements to materials science and manufacturing leading to a creation of high value market applications for selected thin-film PV technologies.

Energy Commission staff will discuss the Electric Program Investment Charge (EPIC) research initiative related to thin-film PV technologies, provide an overview of a proposed related grant solicitation, and solicit feedback from stakeholders, experts, and general public. Invited speakers will discuss research opportunities to guide the Energy Commission's approaches to address the challenges in this area. The panelists will also discuss how Energy Commission funding could leverage various efforts and help the most promising thin-film PV technologies evolve to a commercial product for high value applications and/or niche markets that are not currently served by predominantly silicon-based PV technology.

Welcome, Housekeeping, and Workshop Outline (9:00 – 9:10 AM)

Dr. Rizaldo Aldas, California Energy Commission

Overview of Research Initiative for Solar R&D under 2018-2020 EPIC Program and Planned Solicitation (9:10 – 9:40 AM)

Dr. Silvia Palma-Rojas, California Energy Commission.

Energy Commission staff will highlight Strategic Initiative 4.1.1 "Advance the Material Science, Manufacturing Process, and In-Situ Maintenance of Thin-film PV Technologies" in the 2018-2020 EPIC Program Investment Plan. Staff will present an overview of the objectives, metrics, and project groups being considered in the planned grant solicitation "Cost Reductions, Advanced Technology for Solar Photovoltaics" (CREATE Solar).

DOE Solar Energy Technologies Office (SETO)'s Research and Development on PV Technology (9:40 – 10:00 AM)

Dr. Lenny Tinker, U.S. Department of Energy/Solar Energy Technologies

The U.S. Department of Energy Solar Energy Technologies Office supports early-stage research and development to improve the affordability, reliability, and performance of solar technologies on the grid. SETO staff will provide an overview of current research related to thin-film PV technologies and highlight projects addressing research needs of the thin-film PV industry.

Panel Discussion on State of the Art and Research Needs for Conventional and Emerging Thin-film Photovoltaics (10:00 – 11:30 AM)

Moderator: Dr. Katharina Snyder, California Energy Commission

Panelists will discuss opportunities and challenges for thin-film technologies to advance market readiness, reduce levelized cost of electricity, and increase solar energy penetration in California.

Experts will provide a brief overview of the existing research landscape and research needs for conventional thin-film PV technologies: Cadmium Telluride (CdTe), Copper Indium Gallium Selenide (CIGS), Gallium Arsenide (GaAs), amorphous silicon; and emerging thin-film PV technologies: perovskites, organic/polymer, III-V multi-junction solar cells, quantum dots.

Energy Commission staff will ask targeted questions to obtain feedback on planned funding opportunity.

Dr. Eli Yablonovitch, University of California, Berkeley (*WebEx*)

Dr. Michael McGehee, University of Colorado, Boulder (*WebEx*)

Dr. David Fenning, University of California, San Diego

Dr. Wen Ma, Sunprime Inc.

Dr. Chenlei Wang, Sunprime Inc.

Dr. Michael Woodhouse, National Renewable Energy Laboratory (*WebEx*)

Public Comments (11:30 – 11:55 AM)

Adjourn