



California Energy Commission – PIER

Energy Generation Research Office 2011/12 Proposed Research Initiatives

PIER Renewable Energy Advisory Group Workshop

June 23, 2011

Presentation Overview



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- Introductions
- Public Interest Research Program Overview
- Workshop Purpose
- Role of Participants: Advisory Group, Invited Researchers, Public
- Goals/Policy Drivers
- Renewable Energy Area Budget

Public Interest Energy Research (PIER) Program Overview



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- **IOU Ratepayer Funded Program launched in 1997**

- **Purpose:** Fund public interest energy research that is not provided by the competitive or regulated markets, advances energy science and technology to the benefit of California ratepayers and will provide environmentally sound, safe, reliable and affordable energy services and products. Research areas:
 - Energy Efficiency and Demand Response
 - Renewable Energy and Advanced Electricity Generation
 - Transmission and Distribution
 - Climate and Environment
 - Transportation

- **Approximate \$86.5 Million Annual Budget**
 - \$62.5 million electric
 - \$24.0 million natural gas

PIER Advisory Board



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- Provides strategic advice on R&D priorities and make programmatic level recommendations to future program directions to R&D Policy Committee
- Composed of key stakeholders and research organizations
 - 3 members of Senate, 3 of Assembly, IOU's, SMUD, CAISO, NRDC, CERRT, ARB, Stanford, etc.
- March 2011 meeting results
 - Characterize research into 3 subgroups: Smart Infrastructure, Renewable Energy, Energy Efficiency
 - Would like more information on research initiatives so can make better recommendations

Role of Participants



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- R&D Committee – Decision Makers
- PIER Advisory Board: Provide policy guidance on the PIER program
- PIER Advisory Group: Provide advice, and input on research initiatives and interfaces with the board.
- Invited Researchers/Public: Provide technical feedback, public input on research initiatives

There are three Advisory Groups: Smart Infrastructure, Renewable Energy and Energy Efficiency

Workshop



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- Objective: Structure future public interest research efforts that maximizes electricity ratepayer benefits and eliminates duplication of efforts

- Receive comment on the proposed PIER research initiatives for fiscal year 2011/12 by having the Advisory Group, Researchers and public:
 - Provide advice on the initiatives
 - Identify possible duplications
 - Identify opportunities to gain synergies
 - Assist in effective transfer and use of research results

Renewable & Environmental Energy Policies



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- Integrated Energy Policy Report (IEPR) – biannual report
- SB1250 – Authorizes PIER, sets program direction
- Renewable Portfolio Standard
- Governor’s 20,000 MW of Renewable by 2020
 - 12K MW of localized generations
 - 8k MW large scale utilities
 - 6,500 MW CHP
- Global Warming Solutions Act

Renewable and Environmental Program Goals



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- **Renewable Energy**
 - Utility, community and building scales
 - Reduce technology barriers
 - Increase storage options
 - Improve forecasting
- **Advanced Generation**
 - Science, technology, market availability of grid-connected CHP
 - Technologies to increase reliability, efficiency, and reduce costs, emissions
 - Develop/Demonstrate diversified applications of technologies that use renewable resources and integrate storage options
- **Energy-related Environmental Area**
 - Resolve issues to increase deployment
 - Forecast plausible scenarios of future energy sources and proactively evaluate and research information gaps

Budget Renewable SubArea



Areas	Proposed FY 2011/12 Electric Budget \$62.5M	Total Budget E & NG
Renewable Energy	\$13,900,000	\$16,900,000
RE-related Environmental	\$1,500,000	\$10,300,000
Total Renewable	\$15,400,000	\$32,200,000

Overview



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- Renewable and environmental research initiatives

- Advisory Group Discussion
 - Research Duplication and Synergy Opportunities
 - Technology Transfer and Maximize Use and Usefulness of Results
 - Advice and Comment to Energy Commission Staff
 - Questions posed by staff in presentations

- Researchers Input

- Public Comment

Websites



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■ Public Interest Energy Research Program

– General Program information:

<http://www.energy.ca.gov/research/index.html>

■ Energy Commission Mailing List Registration

<http://www.energy.ca.gov/listservers/index.html>

■ PIER Advisory Board Information

http://www.energy.ca.gov/research/advisory_board.html

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