

**Solar America Initiative
Technology Acceptance Technical Exchange Meeting
San Francisco, CA
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Market Expansion Breakout Group C

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Questions for the Group to Consider:

Priority

- What are the biggest new opportunities or current activities that we should support?
- What are the biggest cost-competitive Solar applications?

Implementation

- Wide vs. Deep—level of technical assistance effort?
- Appropriate subject areas for technical assistance?
- Best way to engage Building community?
- Best way to engage Utilities?

Big Picture

- What issues are we missing?

General Discussion, Comments, and Suggestions:

- The goal is to make solar technology ubiquitous like personal computers, blackberrys, etc.
- Safety code officials are key PV stakeholders. The PV community needs to work with them to resolve any safety concerns and to write safety regulations. If they are not convinced, regulations will prevent widespread installation of PV.
- The Solar America Initiative needs to look 10 years down the road to anticipate issues. For example, a consumer association (similar to American Automobile Association/insurance) should be developed to give PV system warranties and to fix system failures. PV operation can be verified during annual inspections of heating/ventilation air conditioning equipment. Perhaps a company like Sears could do this.
- Economics drive the decision not to buy solar. Those who really want solar don't care about economics.
- Many home owners don't invest in solar because they view solar as non portable. Why should they spend a lot of money when they know they will move in a few years and they can't take the system with them? Homeowners need to convince that this perceived problem is not real. Education is the solution to this issue.
- The Department of Energy should focus on working with portable housing developers because they transcend state lines.

- Portable housing developers need long term stability on incentives to commit the necessary internal capital to include solar in their home products.
- There is a disincentive for builders to add cost to the house because it disqualifies certain buyers on borrowing power. Lenders are skeptical that PV is sound so they worry they won't get their cash flow. This is a big issue facing the PV industry.
- Special "green" home mortgages (through Fannie Mae) are available to include energy efficiency measures, like PV. These special mortgages do not reduce the home-buyer's borrowing power. However, the home buyer must "jump through many hoops" to get this mortgage.
- Historically, international banks were leery to lend money for renewables because they thought the technology to be unproven. An educational program for international banks led to much larger borrowing for renewables.
- The home builder, rather than the home buyer, might be able to take the tax credit for a new solar system. This would allow the builder to reduce the home price to the buyer. However, this idea may not be acceptable to the Internal Revenue Service.
- More building owners would install solar if they did not have to pay the system capital cost. Rather, they would be willing to pay more on their utility bills in order to say they support green power. Third-party financiers would own, operate, and maintain the solar system and sell the electricity to the building owner.
- The San Diego Gas and Electric Sustainable Communities Project has a small budget (approved by Public Utilities Commission) to find communities who would be willing to purchase solar power systems that are owned, operated, and maintained by San Diego Gas and Electric (third party). The communities can be mixed use, both residential and commercial. San Diego Gas and Electric is focusing their efforts on working with high-efficiency green developers. This is a good way to form a critical mass, i.e. larger scale, community-sized PV systems will bring down the cost of PV to the individual residents.
- Third-party power purchase agreements taken to the residential level is a mess. Utility ownership is the way to go because you don't have to worry about moving issues. Military bases might be a good application of third-party financed systems.
- The Department of Energy should issue legal instruments that give very detailed specifications for PV projects that work
- The utility business model should be extended to other types of solar projects.
- Can the Department of Energy deal with Renewable Energy Certificates? No, because Department of Energy does Technology Development.
- Farmers in the central valley of California could be a good market for PV. Department of Energy could help agricultural sector identify applications for solar. Farmers need to meet air regulations. There is a multi-million dollar United States Department of Agriculture program that has existed for quite some time to do something like this.
- The Northern California Solar Energy Industries Association group has a Solar City Fund to facilitate the implementation of new solar projects.
- Million Solar Roofs did outreach (education, etc.) activities for many years. Some people took years to convince. How does the Department of Energy view this activity? Million Solar Roofs outreach will continue under Solar America

Initiative. It is envisioned that Million Solar Roofs would increase their budget for outreach.

- Million Solar Roofs has concluded that rebates and tax credits are crucial for success, but education was key. People often decide to install PV because they are tired of paying the local utility; people like to be independent. Other common reasons recorded by Million Solar Roofs were commitment to the environment, and pride of ownership of being an “early adopter” of new technology.
- The Department of Energy needs to bring consistency and uniformity across the United States. We are 50 states. The current fed residential tax credit is an example of uniformity across all states. The U.S. government could be a portal for getting out the information regarding what works and what doesn't. We need a clearinghouse of information at the Department of Energy. In the past executive summaries have been written, but there is not enough detail on how to actually develop a successful project, nor is there a contact person given. We need a best practices model for successful projects. How do you get states to adopt the best practices from other states?
- Northern California chapter of American Solar Energy Society has a 1-800 hotline on how to get solar on your house. It is not well publicized yet.
- The Energy Policy Act of 2005 requires each state to examine their net metering practices. This is a good vehicle to get the word out about the merits of PV.
- The Department of Energy should document the differences in state approaches to promoting successful PV projects. The Database of State Incentives for Renewable Energy (DSIRE) website is a good start since it lists state-by-state incentives.
- The top 5 U.S.-based builders construct 200,000 houses per year. We need to identify the issues the top 30 builders need to resolve before they would include solar as a standard home feature. If we convert the top 30 (or top 5?) to solar, it will percolate down. Builders are not doing solar today because they don't want to change, not because they think the technology won't work. They have enough on their plate. Solar services group Top 30 are Wall Street, publicly traded. A solar deployment model for a big builder will be different than for a small builder. The solar community has been afraid of engaging these top builders. We need to approach them and develop models for adopting solar. Most big builders have their own mortgage company. Most are self insured.
- National housing quality is through National Association of Home Builders. We need the National Association of Home Builders to recommend a quality approach for energy efficiency, including solar.
- Promoting Solar America Cities within Solar America Initiative is a good idea. Cities are looking for ways to stand above the rest. They like competition. However, we need more than a designation. Tools and resources need to be provided to the city. For example, “stream-lined” permitting could be provided to them. Local government level is easier to develop than State and Federal level. We already have the beginning of a checklist that would let a city become a solar city (see the four points on Infrastructure Development slide within the Technology Acceptance presentation). The Solar City program would also promote uniformity across the U.S.A. But like Leadership in Energy and

Environmental Design, be somewhat flexible, ie. the city doesn't have to meet all the criteria, they need to meet x % of the criteria.

- Flexure Power is an energy efficiency partnership in California. To join the club, you must have a plan. The bar is low. A way to become a Solar City, a bragging right.
- There needs to be a national spokesperson(s) for solar that people can relate to.