



**Solar Opportunities
in Mississippi**

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on behalf of Entergy Mississippi, Inc.**



*Mississippi Public
Service Commission
Working Session*

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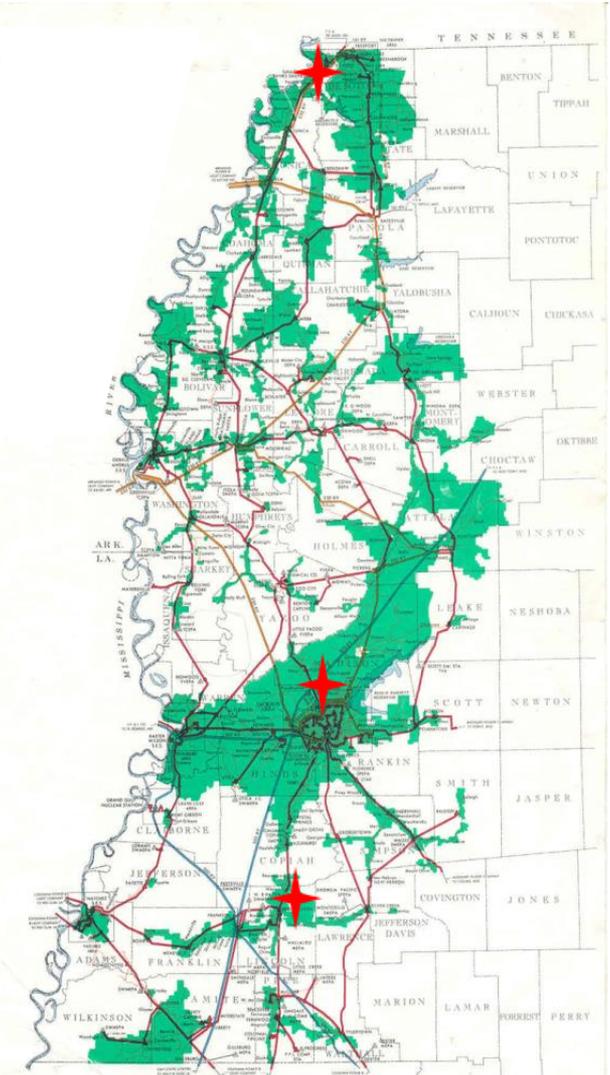
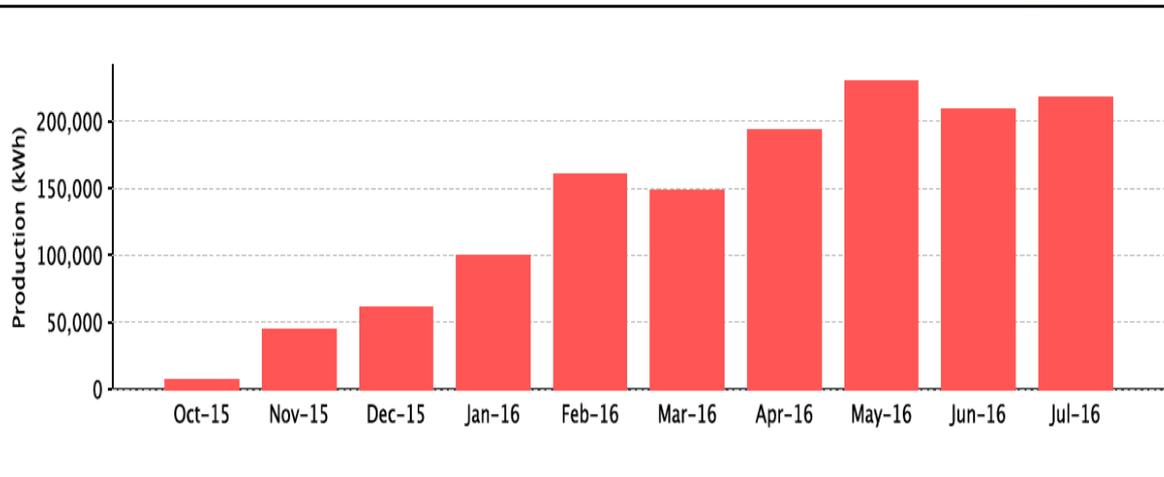


Entergy Mississippi Bright Future Solar Project

The Entergy Mississippi Bright Future Solar Project is a pilot project developed to study the feasibility of solar energy in Mississippi. The project is made up of three (3) separate 500 kW solar stations located in the northern, central, and southern portions of EMI's service territory.

All 3 solar stations are in-service and operational

EMI Portfolio Monthly Production



Entergy Mississippi Bright Future Solar Project

DeSoto Solar Station

- Located in DeSoto County, MS
- 3,720 fixed-tilt mounted panels
- 437,826 kWh produced YTD



Hinds Solar Station

- Located in Jackson, MS
- 3,768 single-axis tracker mounted panels
- 446,764 kWh produced YTD



Brookhaven Solar Station

- Located in Brookhaven, MS
- 3,720 fixed-tilt mounted panels
- 444,263 kWh produced YTD



Other Renewable Pilot Projects

Entergy New Orleans

Patterson Solar Storage Pilot Project

- 1 MW_{AC} single-axis tracker mounted panels
- 500 kWh one-hour advanced Li-ion battery

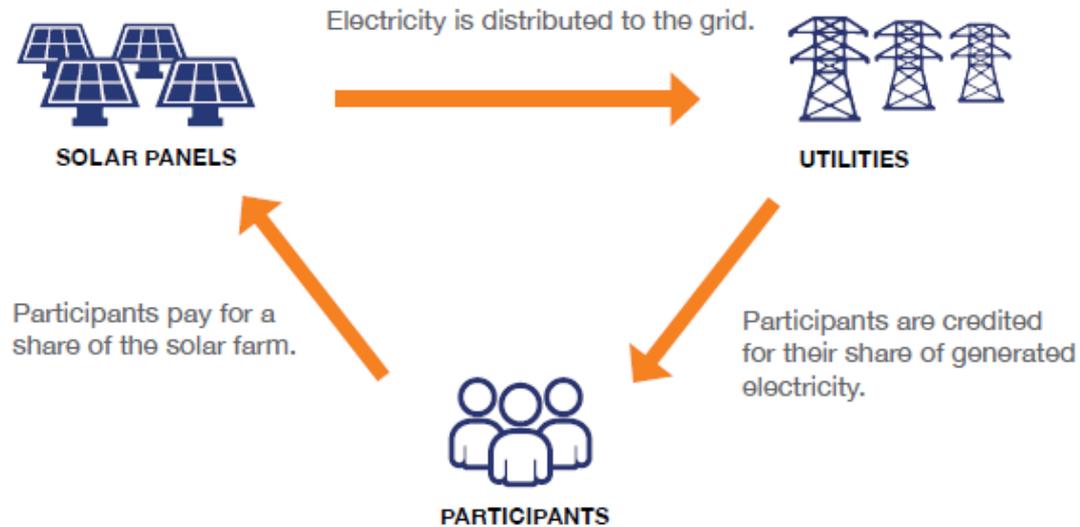
Project is in-service and operational



What is Community Solar?

- For its report, EMI uses the Smart Electric Power Alliance's (SEPA) definition of community solar:

“Community solar is a business model with three defining elements: (1) a group of participants voluntarily pay for a share of a solar array that is located external to their properties; (2) the electricity produced flows into the electric grid; and (3) the subscribers receive benefits for the electricity produced by their share of the solar array.”



- Interest in community solar is growing around the U.S., and there are many different variations in how community solar programs can be structured
- EMI partnered with Clean Energy Collective, a leading developer of community solar solutions in the U.S., to develop its recommendations regarding community solar

Elements of Community Solar Program Design

Size and location of solar project

How customers receive value from their subscription

Cost to customers to participate in program

Length of community solar program

Transferability of subscriptions

Renewable Energy Credit (REC) treatment

Caps on subscription sizes for participants

How Solar Market Factors Are Changing

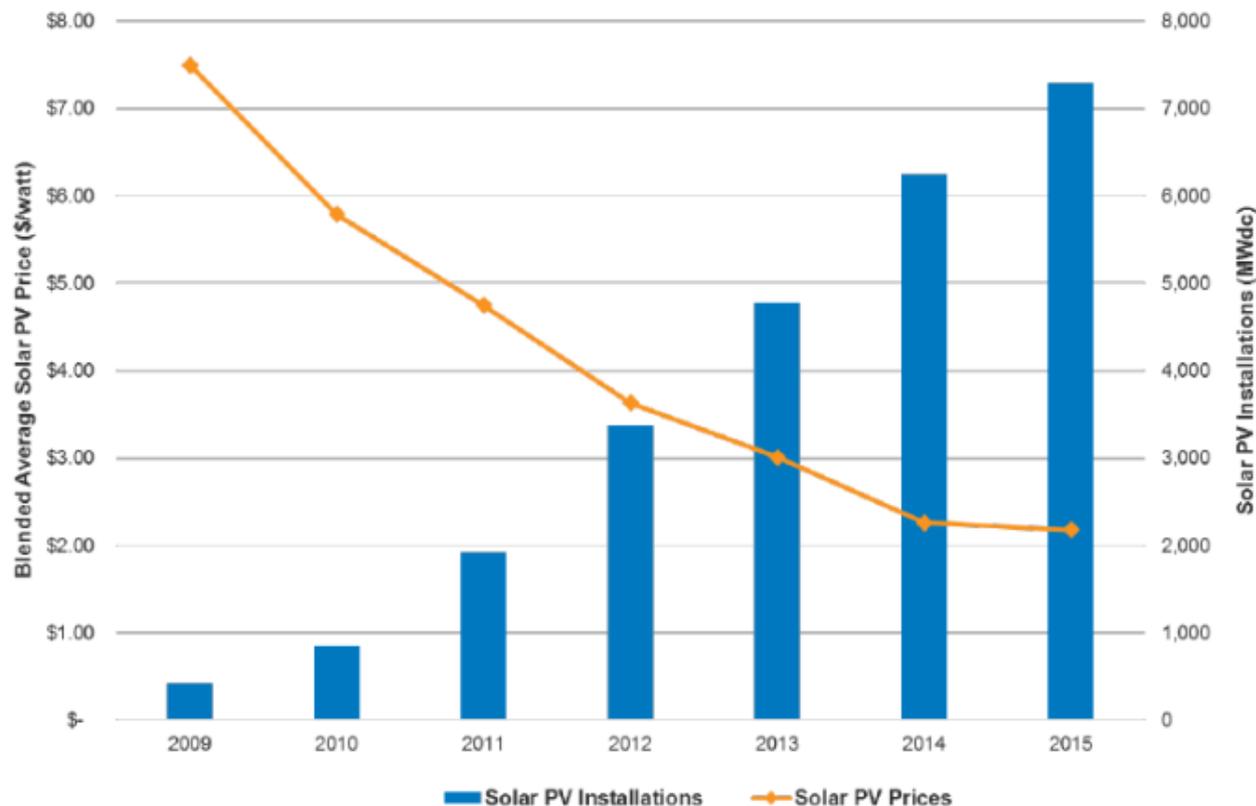
- Federal and state policies
- Solar resource quality
- Solar PV technology improvements
- New business models



INCREASE IN DEMAND

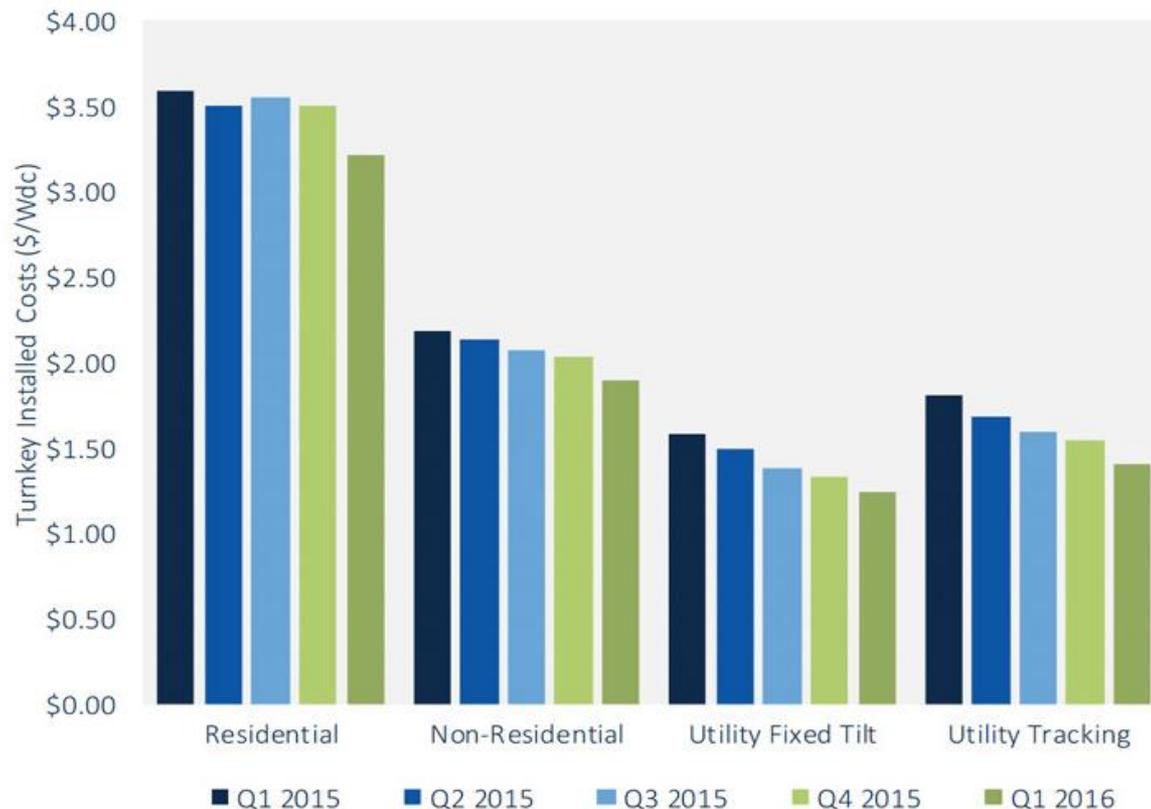


- Lower solar PV equipment and installation costs
- Clearer understanding of O&M costs
- Sustainability objectives (e.g., corporate)



Recent U.S. Solar PV Installation Costs

- Solar PV technology is very scalable, but does provide opportunities for significant economies of scale for larger, utility-scale projects
- Data indicates that per unit costs for utility-scale projects are much lower than smaller, residential-sized systems
- Utility-scale projects also can be more optimally sited and configured to maximize efficiency and energy output (e.g., through use of single-axis tracking)
- Recent studies from both The Brattle Group and IHS Energy estimate ~50% lower energy costs as a result of economies of scale and improved efficiencies*



* Sources: *The Brattle Group, Comparative Generation Costs of Utility-Scale and Residential-Scale PV in Xcel Energy Colorado's Service Area, July 2015*; *IHS Energy, Wind and Solar Power Costs, in the Era of Tax Credits and Beyond, May 24, 2016*

Highlights from EMI's Recommendations

- EMI's community solar program should be as inclusive as possible:
 - An on-going payment structure is preferable
 - All customer classes should be eligible to participate*
 - Some portion of the program should be reserved for qualifying low income customers
 - If a customer moves within EMI's service area, their participation should be able to move with their account
- Here's how EMI's proposed structure could work:
 - Participant agrees to pay a monthly charge (\$) on their bill associated with their subscription (kW); rate for the charge would be expressed in \$/kW
 - Participant's subscription (kW) would entitle them to a bill credit (\$) associated with their share of the output (kWh) from the community solar project each month
 - Credit rate for output would be expressed in \$/kWh

Highlights from EMI's Recommendations (continued)

- Goal of EMI's community solar program would be to offer value to participants throughout the program's life as well as mitigate concerns about cost-shifting
- To gain sufficient economies of scale to support benefits for customers, EMI recommends that a 5-10 MW project be constructed to support the program
- A community solar program may initially be associated with only a portion of a larger solar project, which may be expanded in the future based upon customer interest

