



U.S. DEPARTMENT OF  
**ENERGY**



# Savannah River Site (SRS) Solar Power Update

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*Citizens Advisory Board  
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# ACRONYMS

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AC – Alternating Current

AEC – Aiken Electric Co-op

DC - Direct Current

ESPC – Energy Savings Performance Contract

FEMP – Federal Energy Management Program

kW – Kilo Watts

MTU – Michigan Technological University

MW - Mega Watts (1000 kW)

NREL – National Renewable Energy Laboratory

PPA – Purchase Power Agreement

SRNL - Savannah River National Laboratory

RFI – Request for Information

W - Watts

# PURPOSE

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- Update CAB on Recommendation 360 – Solar Generation Power Use at SRS

# Solar Generated Power Use at SRS

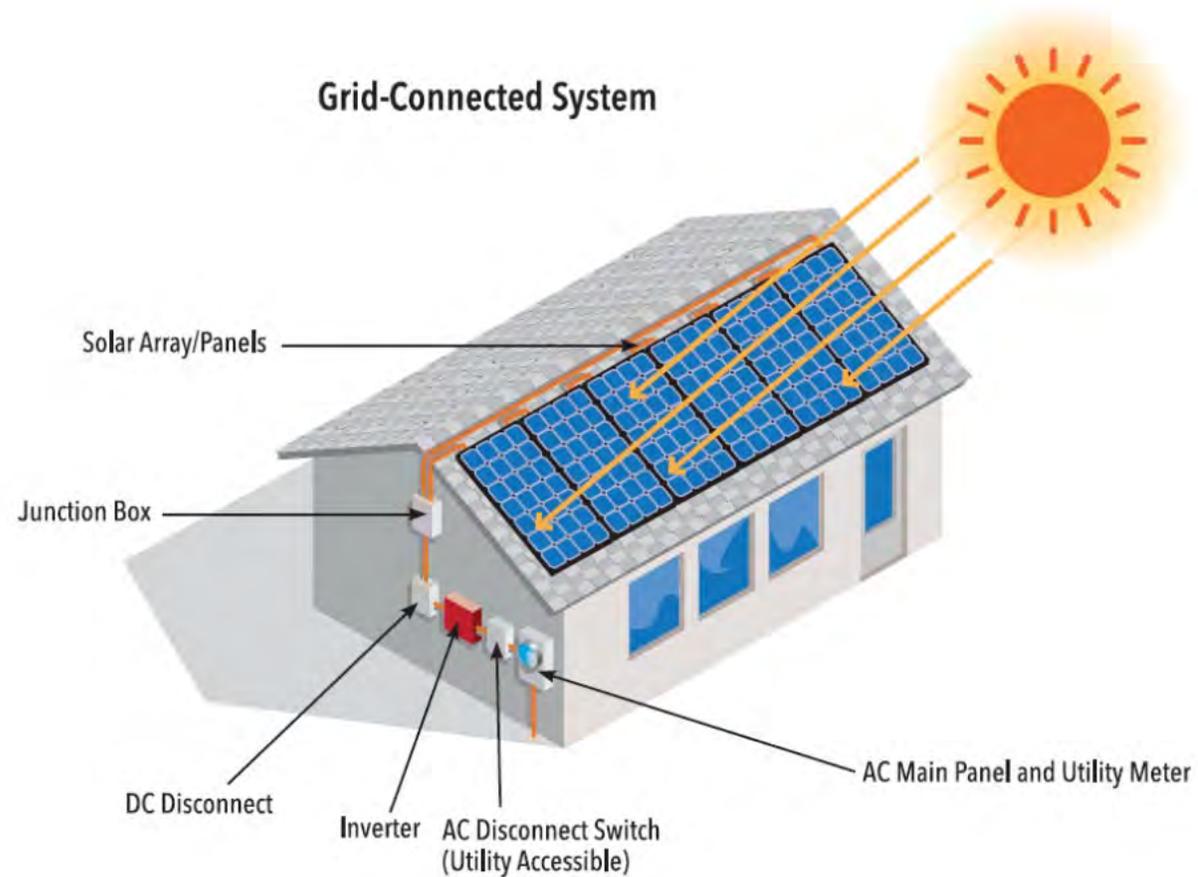
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## CAB Recommends:

- 1) Investigate / consider the feasibility of using solar panels on roof tops, or common grounds of buildings(s) to supply renewable energy
- 2) Perform a study to determine current and projected costs vs benefits of solar generated power across the range of facilities within SRS. The study should project a minimum of five years out.

# Solar Power Facts

- Classified as Renewable Energy
- Can provide heat and/or electric current
- Produces energy when sunlight reaches the media/panel
- Electric current produced is DC



# Solar Power History at SRS

- Used to generate light/power for small sources in remote areas
- SRNL Research Center
- SRNL research programs in solar since 2009
- To date larger systems have not been economical, but economics have changed drastically in the last 5 years



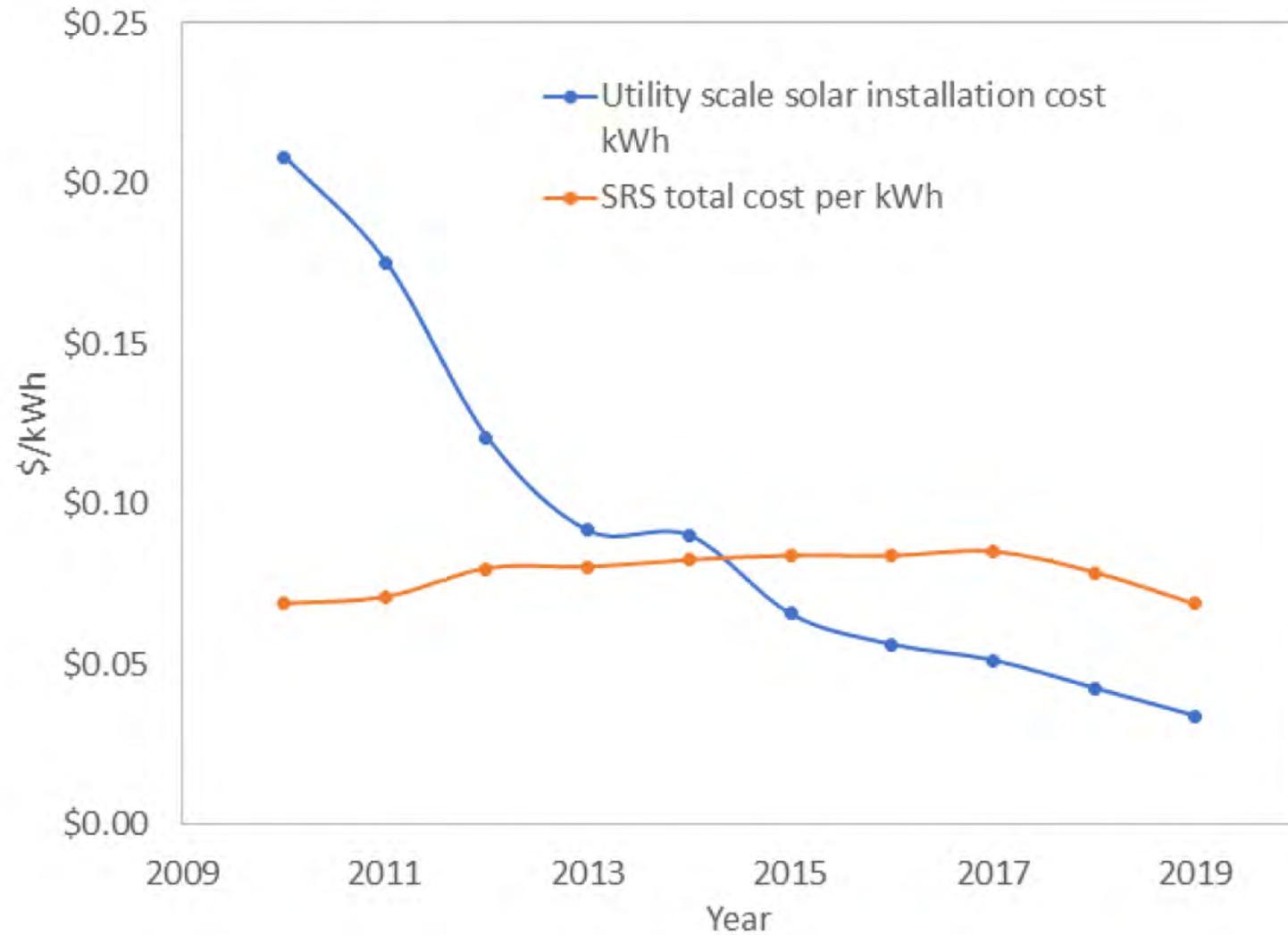
Center for Hydrogen Research

# Projects Under Development in Aiken County

- **250kW Community Solar for AEC**
- **1 MW by MTU**
- **23.1 MW in Beech Island by ESA Renewables**
  - Enough power for ~2500 homes
- **25 MW in Jackson by Southern Current**
- **74 MW off Edgefield highway by Adger Solar**
  - Enough power for ~8200 homes



# Solar Installation Cost Analysis



# SRS Solar Power Generation Approach

- **Viable approach favorable to pursue a utility scale solar field**
- **Energy Cost Savings Factors**
  - No increase on Site utility consumption cost
- **Battery Storage should be included, as well as energy efficiency measures**
- **Utility Scale Alternatives**
  - Third party Energy Savings Performance Contract
  - or utility provided facility



# SRS Solar Power Generation Progress

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- Initiated SRS Solar Power Working Group
- Consulted with FEMP/NREL
- Discussed with DOE Sustainability Program Office
- Issued RFI on Energy Savings Integrating Solar Energy
- Entered into discussion with Dominion Energy of South Carolina
- Site Visit at Department of Defense Facility constructing solar field with battery storage
- Determined potential site locations
- Evaluated energy storage concepts

# SRS Solar Utility Requirements

- Sized to support current site energy demands and can demonstrate future costs savings
- Integrated into SRS electrical grid
- Ability to support Site's peak demand
- Located within site boundary
- Meet all required environmental siting and permit requirements



# Path Forward

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- Complete Site Selection Process
- Develop Contractual Vehicle
  - RFP if site pursues ESPC
  - Dominion Energy PPA
  - Other
- Weigh Benefits and Costs
  - Other Considerations
- Decision

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Questions ???