



# Overview of SRS Energy Management Program

*Achieving the vision of the Savannah River Site*

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*Savannah River Site Citizens Advisory Board*

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# Purpose

- To satisfy a 2013 Facilities Disposition & Site Remediation (FD&SR) Work Plan topic.
- Provide an overview of the Savannah River Site Energy Management Program performed on site to achieve the energy efficiency goals and requirements established by the required orders and acts.
- Providing update to the CAB on the Savannah River Site Energy Management Program.



# Briefing Overview

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# Drivers

- Department of Energy Order 436.1, “Departmental Sustainability,” May 2, 2011\*
- Executive Order 13514, “Federal Leadership in Environmental, Energy and Economic Performance,” October 5, 2009
- Executive Order 13423, “Strengthening Federal Environmental, Energy, and Transportation Management,” January 24, 2007
- The Energy Policy Act of 2005 (Public Law 109-58), August 8, 2005
- The Energy Independence and Security Act of 2007, December 19, 2007

\* Orders can be found at [http://www1.eere.energy.gov/femp/regulations/requirements\\_by\\_reg.html](http://www1.eere.energy.gov/femp/regulations/requirements_by_reg.html)





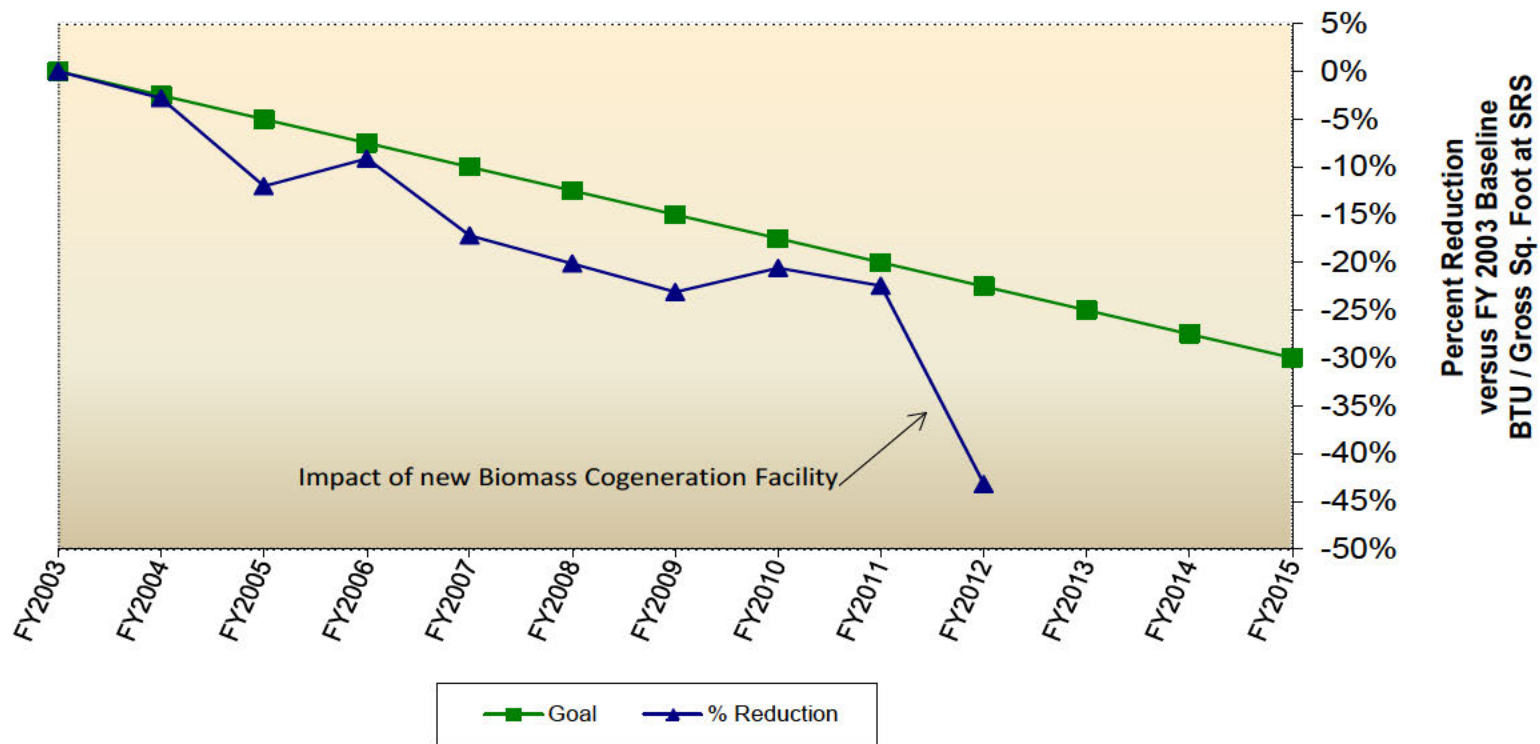
# Energy Intensity

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"><li>30% energy intensity (energy consumption / square footage) reduction by FY 2015 from a FY 2003 baseline.</li></ul>	<ul style="list-style-type: none"><li>SRS has currently achieved a 43.2% reduction through FY 2012 compared to FY 2003 baseline.</li><li>SRS energy intensity decreased by approximately 6.4% in FY 2012 versus FY 2011.</li></ul>	<ul style="list-style-type: none"><li>SRNS will continue to replace Heating, Ventilation, and Air Conditioning systems with higher Seasonal Energy Efficiency Ratio units.</li><li>Evaluate facility audit results of square footage.</li><li>Continue to use Peak Alert to control peak demands for purchase electricity.</li></ul>



# Performance Status

## DOE-SR Performance Toward 30% Energy Reduction Goal



# Metering

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"><li>Individual buildings or processes metered for 90% of electricity (by October 1, 2012) and for 90% of steam and chilled water (by October 1, 2015).</li></ul>	<ul style="list-style-type: none"><li>SRS Metering Plan was developed in FY 2011.</li><li>Existing metering program includes over 200 electrical meters and 15 steam meters to provide energy use data.</li><li>SRS uses meter data as part of comprehensive billing and cost allocation system.</li><li>Meter data is directly correlated with various multi-building. processes / programs across SRS.</li><li>Not all buildings are individually metered but individual processes / programs are a part of costing efforts.</li></ul>	<ul style="list-style-type: none"><li>Continue to use existing metering of multiple rather than individual processes / buildings.</li><li>Continue metering of High Performance and Sustainable Buildings.</li></ul>





# Renewable Energy

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"> <li>7.5% of SRS's annual electricity consumption from renewable sources by FY 2013 and thereafter (5% FY 2010 – 2012) (Double credit if the energy is produced on-site).</li> </ul>	<ul style="list-style-type: none"> <li>Generated a total of 1.67 billion pounds of steam and 97,000 megawatts of electricity during performance period.</li> <li>Consumed more than 10,000 tons of tires and 221,000 tons of clean biomass during performance period.</li> <li>Reduction of over 1 billion gallons of water from the Savannah River annually.</li> <li>Reduction of greenhouse gas emissions by about 100,000 tons per year.</li> <li>Meeting and exceeding all SRS renewable energy goals in federal directives.</li> <li>Over \$34 million dollars a year in energy and operational savings.</li> </ul>	<ul style="list-style-type: none"> <li>SRS will use the new Biomass Cogeneration Facility to produce SRS process steam and up to 20 megawatts of "green" power.</li> <li>The Biomass Cogeneration Facility has a life expectancy of approximately 30-40 years.</li> </ul>





# Biomass Cogeneration Facility



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# High Performance Sustainable Buildings – Existing Buildings

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"> <li>15% of existing buildings larger than 5,000 gross square feet to be compliant with the five Guiding Principles of High Performance Sustainable Buildings by FY 2015.</li> </ul>	<ul style="list-style-type: none"> <li>SRS contracted with Energy Ace to provide energy auditing, commissioning, and American Society of Heating, Refrigerating and Air Conditioning Engineers compliance evaluation for nine buildings in FY 2012.</li> <li>Approximately 546,000 square feet of building space was evaluated.</li> </ul>	<ul style="list-style-type: none"> <li>A new management-sanctioned team to oversee High Performance and Sustainable Buildings program activities in FY 2013.</li> <li>A plan will be developed to implement policies and take actions in FY2014/2015.</li> <li>Facilities input into Environmental Protection Agency Portfolio Manager database in FY 2013.</li> </ul>

# Energy and Water Evaluations

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"><li>The Energy Independence Security Act requires evaluations of 25% of covered facilities each year, so that an evaluation of each facility is completed at least once every four years.</li></ul>	<ul style="list-style-type: none"><li>The Sustainability Program Office funded energy and water conservation evaluations at SRS in FY 2012.</li><li>A total of 2.8 million square feet of covered facilities were evaluated by Enviro-Management &amp; Research, Inc.</li></ul>	<ul style="list-style-type: none"><li>Evaluation of the report will be conducted in FY 2013.</li><li>Benchmarking of several buildings will be initiated as part of the High Performance and Sustainable Buildings activities through inclusion of data in the Environmental Protection Agency Portfolio Manager database.</li></ul>





# Fleet Reduction

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"><li>2% annual reduction in fleet petroleum consumption by FY 2020 relative to a FY 2005 baseline.</li></ul>	<ul style="list-style-type: none"><li>SRS has reduced its petroleum usage by approximately 19% in FY 2012 relative to a FY 2005 baseline.</li></ul>	<ul style="list-style-type: none"><li>SRS is implementing a 35% reduction of vehicles over 3 years. This effort will help reduce petroleum usage.</li><li>SRS has a system in place to maximize Ethanol 85% (E85) Alternative Fuel Vehicle usage.</li><li>SRS is participating in the General Services Administration Plug-In Electric Vehicle Pilot program.</li></ul>



# Fleet Reduction



**Chevrolet  
Volt**



# Electronic Stewardship

Goal	Performance Status	Current and Planned Actions
<ul style="list-style-type: none"><li>Electronic Stewardship – 100% of eligible personal computers, laptops, and monitors with power management actively implemented and in use by FY 2012.</li></ul>	<ul style="list-style-type: none"><li>Leased desktop computers, laptops, and monitors meet the Electronic Product Environmental Assessment Tool and Energy Star requirements.</li><li>The lease contract requires that all computers must be Energy Star compliant and must meet low standby power requirements.</li><li>The power reduction features of the personal computers and monitors are set to efficient levels upon receipt of the equipment.</li></ul>	<ul style="list-style-type: none"><li>SRS will continue to ensure leased desktop computers, laptops, and monitors continue to meet the Electronic Product Environmental Assessment Tool and Energy Star requirements.</li></ul>





# Summary

- Savannah River Site is currently meeting/exceeding the 30% energy intensity reduction goal for FY 2015.
- Savannah River Site will continue to use existing metering of multiple rather than individual processes / buildings.
- Savannah River Site is meeting/exceeding the renewable energy goal of 7.5% for FY 2013 and thereafter (up to 30% of the site electrical consumption can be generated by the new biomass facility).
- Savannah River Site is taking action on High Performance and Sustainable Buildings activities and will develop policies for FY 2014 and FY 2015.



# Summary – cont.

- Savannah River Site will evaluate the final report on facilities audited in FY 2012 under the Energy Independence Security Act.
- Savannah River Site is currently meeting/exceeding the 2% annual reduction in fleet petroleum consumption for FY 2020. Savannah River Site will continue the 35% vehicle reduction in FY 2013 and participate in the General Services Administration Plug-In Electric Vehicle Pilot program.
- SRS will continue to lease computers that will meet the Electronic Product Environmental Assessment Tool.



# Questions?

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