

Princeton Plasma Physics Laboratory  
Environmental Management System

Appendix C

Summary of EMS Objectives & Targets

Revision 7  
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SSPP Goal #	DOE Goal	Performance Status through FY 2016	Planned Actions & Contribution	Risk of Non-attainment
<b>Goal 1: Greenhouse Gas (GHG) Emission Reduction</b>				
1.1	50% Scope 1 & 2 GHG reduction by FY 2025 from a FY 2008 baseline (2016 target: 22%)	<b>IN PROGRESS</b> FY16 GHGs down 6% from baseline	Renewed emphasis on SF6 management and overall energy efficiency	Moderate
1.2	25% Scope 3 GHG reduction by FY 2025 from a FY 2008 baseline (2016 target: 7%)	<b>IN PROGRESS</b> FY16 GHGs up 18% from baseline	Focus on telework and employee commuting; continue to emphasize energy efficiency and business travel	Moderate to high. Ongoing international research emphasis & employee growth put upward pressure on Scope 3 GHGs
<b>Goal 2: Sustainable Buildings</b>				
2.1	25% energy intensity (Btu per gross square foot) reduction in goal-subject buildings, achieving 2.5% reductions annually, by FY 2025 from a FY 2015 baseline	<b>ON TARGET</b> Met FY16 target	Continue to focus on energy efficiency and building energy performance	Moderate. Limited funding available for ECMs
2.2	EISA Section 432 energy and water evaluations	<b>MET</b> 100% of covered buildings had Type 1 audit in FY15	25% of buildings will be evaluated in 2017	NA
2.3	Meter all individual buildings for electricity, natural gas, steam and water, where cost-effective and appropriate	<b>MET</b>	Additional sub-metering as cost-effective and programmatically appropriate	Moderate. Current utility configuration doesn't allow building-level metering.
2.4	At least 17% (by building count or gross square feet) of existing buildings greater than 5,000 gsf are compliant with the Guiding Principles (GPs) of HPSB by FY 2025, with progress to 100% thereafter	<b>MET</b> Using GSF option	Plan to continue HPSB Guiding Principles on additional facilities in conjunction with facility repairs & renovations.	Moderate. LEED-Gold certification of LSB due to renewal. Limited funding available for ECMs
2.5	Efforts to increase regional and local planning coordination and involvement	<b>MET</b>	Continue to coordinate with Princeton Forrestal Center.	NA
2.6a	Net Zero Buildings: 1% of the site's existing buildings above 5,000 gsf intended to be energy, waste, or water net-zero buildings by FY 2025.	<b>NONE</b>	Evaluating existing buildings to identify opportunities and strategies to address this goal	High. Critical infrastructure needs may not allow sufficient funds in the near term.
2.6b	Net Zero Buildings: All new building entering planning process designed to achieve energy net-zero beginning in FY2020	<b>NONE</b>	Evaluating existing buildings to identify opportunities and strategies to address this goal	High. Critical infrastructure needs may not allow sufficient funds in the near term.
<b>Goal 3: Clean &amp; Renewable Energy</b>				
3.1	Clean Energy: Percentage of an agency's total electric and thermal energy accounted for by renewable and alternative energy shall be not less than: 10% in FY 2016-2017, working towards 25% by FY 2025. (2017 target: 10%)	<b>ON TARGET</b>	Continue purchasing RECs and evaluate ESPC/PPA opportunities	Moderate.

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3.2	“Renewable Electric Energy” Renewable electric energy account for not less than 10% of a total agency <u>electric</u> consumption in FY16-17, working towards 30% of total agency <u>electric</u> consumption by FY 2025. (2017 target: 10%)	<b>MET</b>  Purchased RECs to meet goal.	Continue purchasing RECs and evaluate ESPC/PPA opportunities	NA
<b>Goal 4: Water Use Efficiency and Management</b>				
4.1	36% potable water intensity (Gal per gross square foot) reduction by FY 2025 from a FY 2007 baseline (2016 target: 18%)	<b>EXCEEDED</b>	Continue to identify water conservation opportunities. Maintain previous savings.	NA
4.2	30% water consumption (Gal) reduction of industrial, landscaping, and agricultural (ILA) water by FY 2025 from a FY 2010 baseline (2016 target: 12%)	<b>IN PROGRESS</b> Exceeded goal in FY11-14. FY16 water use exceeded goal level	Mission-critical operational use of industrial water caused increase in FY16. Will continue to seek and maximize opportunities to reduce industrial water use.	Moderate. Additional water conservation opportunities are limited.
<b>Goal 5: Fleet Management</b>				
5.1	30% reduction in fleet-wide per-mile greenhouse gas emissions reduction by FY 2025 from FY14 baseline. (2016 target: 3%)	<b>EXCEEDED</b> FY16 total fleet GHG intensity down 55% from baseline	Continue to manage fleet composition and emphasize alternative fuel use.	Low. Dashboard data not accurate.
5.2	20% reduction in annual petroleum consumption by FY2015 relative to a FY05 baseline; maintain 20% reduction thereafter. (2016 target: 20%)	<b>EXCEEDED</b>	Continue to manage fleet composition and emphasize alternative fuel use.	NA
5.3	10% increase in annual alternative fuel consumption by FY15 relative to a FY05 baseline; maintain 10% increase thereafter. (2016 target: 10%)	<b>EXCEEDED</b>	Continue to manage fleet composition and emphasize alternative fuel use.	NA
5.4	75% of light duty vehicle acquisitions must consist of alternative fuel vehicles (AFV). (2016 target: 75%)	<b>MET</b>	Continue to emphasize AFV and alternative fuel use.	NA
5.5	50% of passenger vehicle acquisitions consist of zero emission or plug-in hybrid electric vehicles by FY 2025. (2016 target: 4%)	New Goal	Work with GSA to identify opportunities in vehicle lease program. Limited number of passenger vehicles.	NA
<b>Goal 6: Sustainable Acquisition</b>				
6.1	Promote sustainable acquisition and procurement to the maximum extent practicable, ensuring BioPreferred and biobased provisions and clauses are included in 95% of applicable contracts.	<b>MET</b>	Continue to integrate sustainable acquisition information into applicable contracting documents.	NA
<b>Goal 7: Pollution Prevention &amp; Waste Reduction</b>				
7.1	Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris.	<b>EXCEEDED</b> FY16MSW recycling rate was 69%%	Continue existing programs and expand as appropriate.	NA

SSPP Goal #	DOE Goal	Performance Status through FY 2016	Planned Actions & Contribution	Risk of Non-attainment
7.2	Divert at least 50% of construction and demolition materials and debris.	<b>EXCEEDED</b> FY16 C&D recycling rate was 97.1%	Continue existing programs and expand as appropriate.	NA
<b>Goal 8: Energy Performance Contracts</b>				
8.1	Annual targets for performance contracting to be implemented in FY2017 and annually thereafter as part of the planning of section	<b>ON TARGET</b>	Currently investigating CHP opportunity and DOE AFFECT program.	NA
<b>Goal 9: Electronic Stewardship</b>				
9.1	Purchases – 95% of eligible acquisitions each year are EPEAT-registered products	<b>EXCEEDED</b>	EPEAT products specified as default	NA
9.2	Power management – 100% of eligible PCs, laptops, and monitors have power management enabled	<b>IN PROGRESS</b> for desktops & laptops <b>MET</b> for monitors	Plans to procure power management software for Macs.	Moderate.
9.3	Automatic duplexing – 100% of eligible computers and imaging equipment have automatic duplexing enabled	<b>MET</b> All eligible printers default to duplex	Specify purchase of duplex-capable networked printers as older units are retired.	NA
9.4	End of Life – 100% of used electronics are reused or recycled using environmentally sound disposition options each year	<b>MET</b>	Continue to re-use electronic assets internally & recycle through UNICOR	NA
2.7	Data Center Efficiency - Power Usage Effectiveness (PUE) target in the range of 1.2-1.4 for new data centers and less than 1.5 for existing data centers	<b>IN PROGRESS</b> Data center PUE for FY16 was 1.57	Reviewing near-term options to improve cooling efficiency. Evaluating potential GPP project to replace existing HVAC with chilled water cooling.	Moderate. Evaluate opportunities to include data center in potential ESPC
<b>Goal 10: Climate Change Resilience</b>				
10.1	Update policies to incentivize planning for, and addressing the impacts of climate change.	DOE GHG and climate adaptation goals are integrated into lab-wide ISO-14001 certified environmental management system (EMS).		
10.2	Update emergency response procedures and protocols to account for projected climate change, including extreme weather events.	Existing Emergency Plan includes various weather-related emergencies. Plan is tested and exercised during major weather events.		
10.3	Ensure workforce protocols and policies reflect projected human health and safety impacts of climate change.	Existing emergency procedures address weather-related risks. Continue to revise and update emergency procedures as necessary.		
10.4	Ensure site/lab management demonstrates commitment to adaptation efforts through internal communications and policies.	DOE GHG and climate adaptation goals are integrated into lab-wide ISO-14001 certified environmental management system (EMS).		
10.5	Ensure that site/lab climate adaptation and resilience policies and programs reflect best available current climate change science, updated as necessary.	Continue to participate in state and regional climate change initiatives. Monitor developments in climate science and update policies and programs as necessary.		