



U.S. DEPARTMENT OF  
**ENERGY**

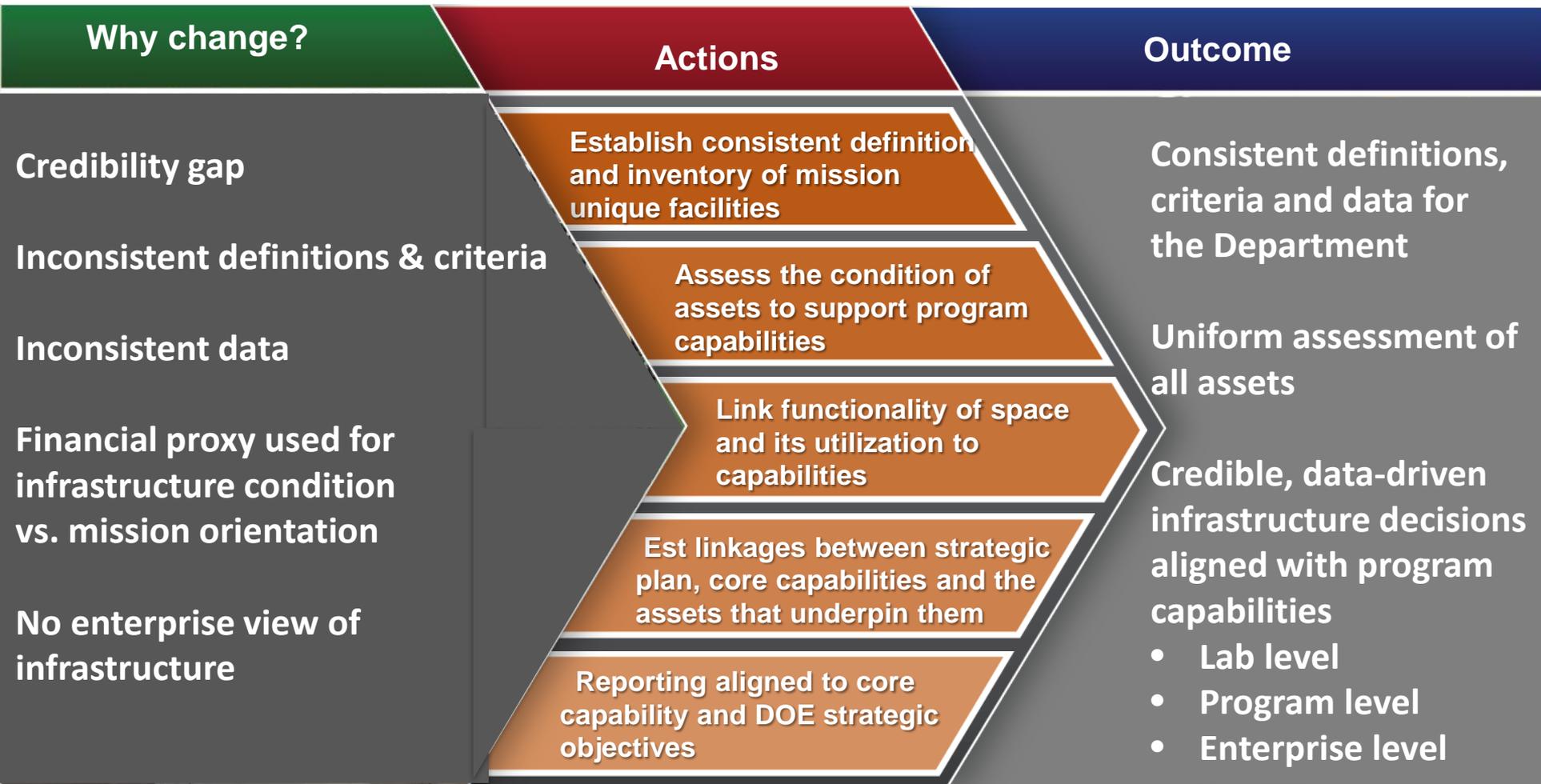
Office of  
Science

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Briefing to the Commission to Review the Effectiveness of the  
National Energy Laboratories (CRENEL)

Joseph McBrearty,  
Deputy Director for Field Operations  
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# The Laboratory Operations Board Implemented a Significantly Revised Approach to Infrastructure Assessments In 2014



# Assessment Results Complemented SC's Focus on Comprehensive Infrastructure Strategies in Last Year's Annual Lab Plans

Each SC laboratory's **Campus Strategy** defines the plan for the physical infrastructure at that laboratory, consistent with the programmatic vision and the anticipated future mission and capabilities.

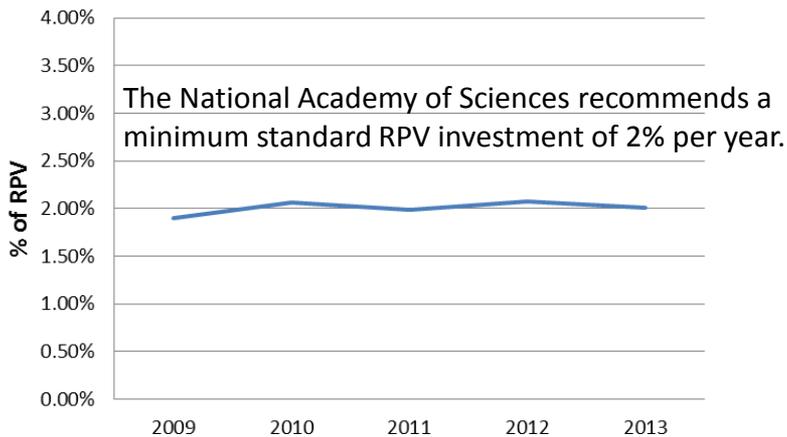
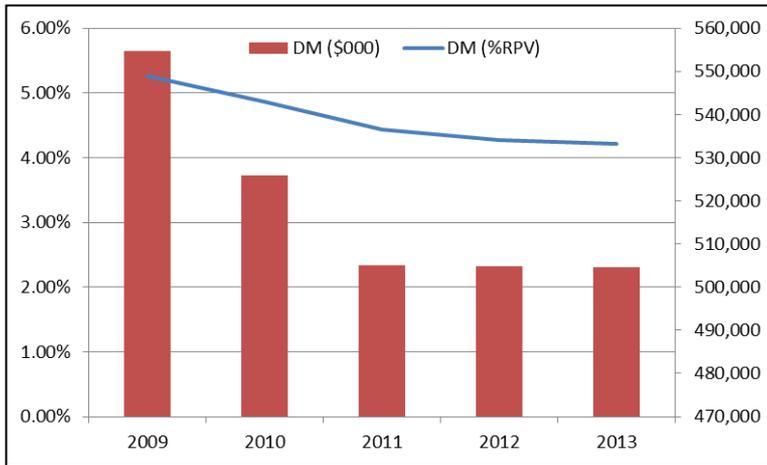
Components of a Campus Strategy:

- A **rigorous condition assessment** of current assets.
- Definition of **future capabilities** needed.
- A **gap analysis** that identifies the infrastructure to provide those capabilities, as well as excess that can be eliminated.
- A comprehensive evaluation of **alternatives** to fill gaps.
- A reasonable **path forward for needed investments**.



All of this is then captured in SC's Annual Laboratory Plans.

# The Office of Science Has Made Good Progress in Stewardship of Its Infrastructure With Both Laboratory and Line Item Investments



## Science Laboratories Infrastructure (SLI) Program

### By The Numbers

2006 through September 2014

812K

Square feet of new space constructed

329K

Total square feet of existing space modernized

291K

Total square feet of deficient or excess space demolished

2,100

Estimated number of occupants of newly constructed or modernized buildings funded by the SLI program

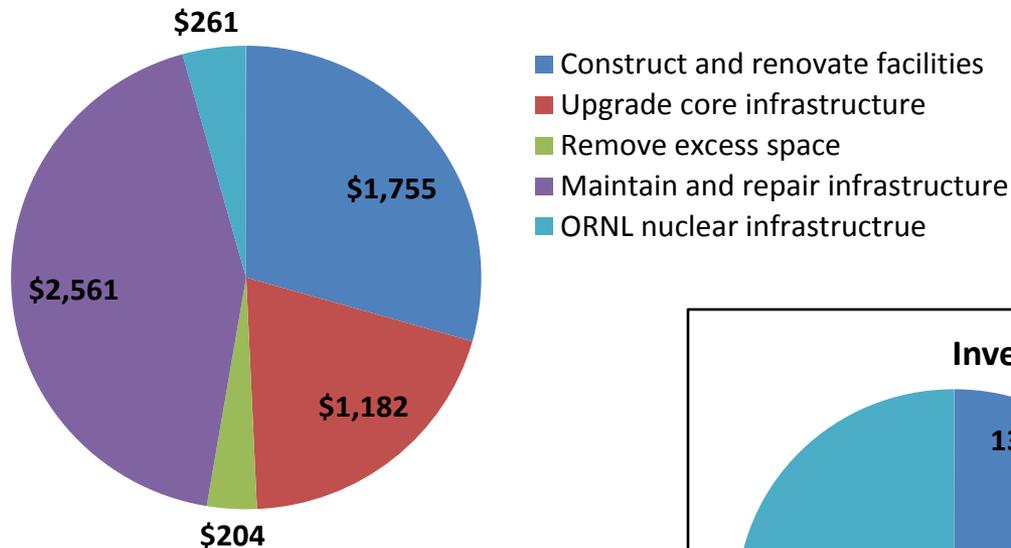
100%

Portion of buildings that are sustainable, including 11 that have achieved Leadership in Energy & Environmental Design (LEED) designation from the US Green Building Council

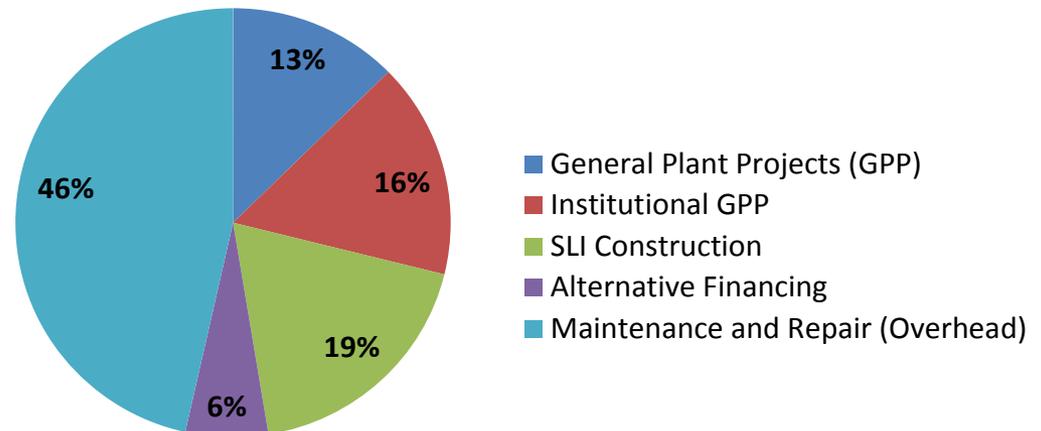
# Because of the Age of Our Infrastructure, and our Emerging Science Needs, Gaps Continue to Exceed Investments

The laboratories have identified \$6B of needed investments over the next ten years.

Ten-Year Needs for General Purpose Laboratory Infrastructure, All Funding Sources (\$M)



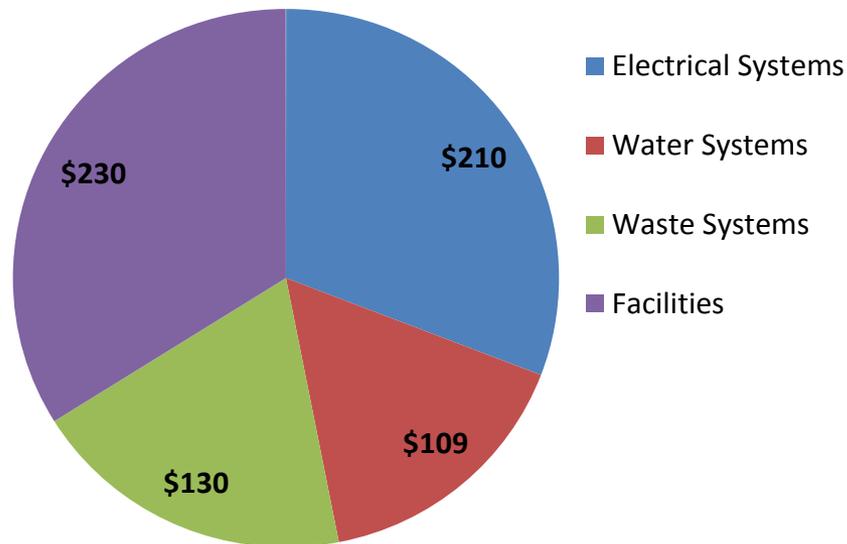
Investments by Major Funding Source



# Nearly \$700M of Improvements are Needed in Basic Systems that Form the Backbone of our Laboratories

Systems are being run to failure and present significant risks to the SC mission.

Identified Core Infrastructure Needs by System (\$M)



# The SC Infrastructure Strategy: Continue Investments in Construction, Increase Emphasis on Core Infrastructure

The FY 2016 Budget Request continues funding for ongoing line item construction projects, and increases investment in Infrastructure Support activities.

(\$000)	FY 2014	FY 2015 Enacted	FY 2016 Request
<b>Infrastructure Support</b>	<b>8,236</b>	<b>13,590</b>	<b>44,690</b>
Oak Ridge Landlord (including PILT)	5,951	5,777	0
Payments in Lieu of Taxes (ANL, BNL)	1,385	1,713	1,713
Nuclear Operations	0	0	12,000
Facilities and Infrastructure Support (various)	900	6,100	30,977
<b>Construction</b>	<b>89,582</b>	<b>66,010</b>	<b>68,910</b>
Science and User Support Building (SLAC)	25,482	11,920	0
Utilities Upgrades (FNAL)	34,900	0	0
Utility Infrastructure Modernization (TNJAF)	29,200	0	0
Infrastructure and Operational Improvements (PPPL)	0	25,000	0
Photon Science Laboratory Building (SLAC)	0	10,000	25,000
Integrative Genomics Building (LBNL)	0	12,090	20,000
Materials Design Laboratory (ANL)	0	7,000	23,910
<b>TOTAL, Science Laboratories Infrastructure</b>	<b>97,818</b>	<b>79,600</b>	<b>113,600</b>

# A Proposal to Institutionalize the Process Across the Department

The infrastructure managers involved in the Lab Operations Board effort have proposed an Infrastructure Strategic Plan that would institutionalize an enterprise-wide process.

- Institutionalize the assessment and planning process used in 2014 for use across the Department.
- Create an Infrastructure Executive Committee ensure continued visibility of general-purpose infrastructure issues
  - Responsible for analyzing the status of the Department's general purpose infrastructure, routinely briefing senior leadership on the enterprise view, and formulating recommendations
  - Consist of senior leadership with line management responsibility for general purpose infrastructure, working closely with the Department's Real Property Officer
  - Lead efforts, in collaboration with the CFO, to formulate an annual infrastructure crosscut budget proposal for the Secretary's consideration

