



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Better Buildings Platform: High Performance Outdoor Lighting Accelerator (HPOLA)

October 2, 2014

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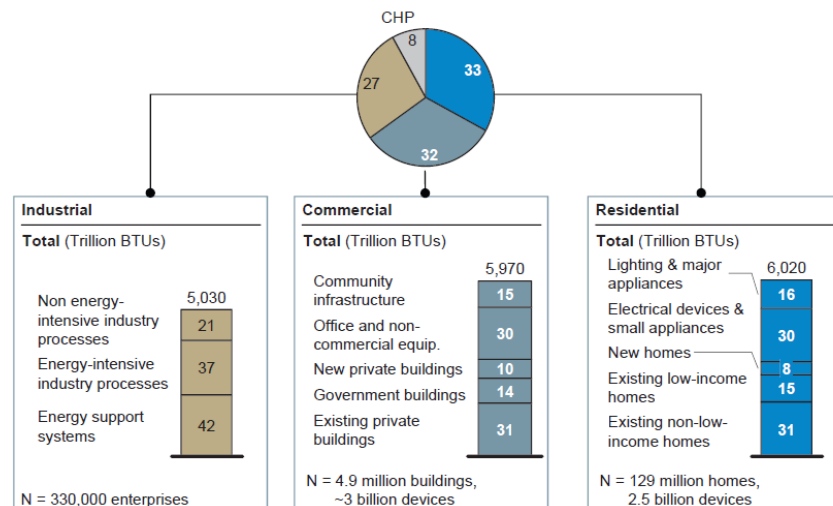
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Crystal McDonald
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Cost Effective Opportunities for Energy Efficiency

Percent, 100% = 18,410 trillion BTUs of primary energy



U.S. spends \$600 billion each year to power homes, plants, & buildings

- Great opportunities in residential, commercial and industrial sectors
- 20% + savings is average
- Other benefits: Jobs, Environment, Competitiveness

BUT persistent barriers exist...

- Efficiency not included as corporate decision making; not integrated into business planning
- Lack of senior management buy-in
- Lack of information; need unbiased information
- High hurdle rates
- No ability to engage in ESCO financing
- Split incentives /tenant-employee behaviors at odds with efficiency goals
- Not enough/qualified workforce

Better Buildings Challenge

Launched December 2011

Goals:

- Make commercial, industrial buildings & multifamily housing 20%+ more efficient in 10 years
- Save more than \$80B+ for US organizations
- Create American jobs; improve energy security
- Mitigate impacts of climate change

How:

- ✓ Leadership
- ✓ Results
- ✓ Transparency
- ✓ Best Practice Models
- ✓ Recognition
- ✓ Catalyzing Action



Launched 2011, Now 200+ Partners
Commercial, Industrial, Public, Private

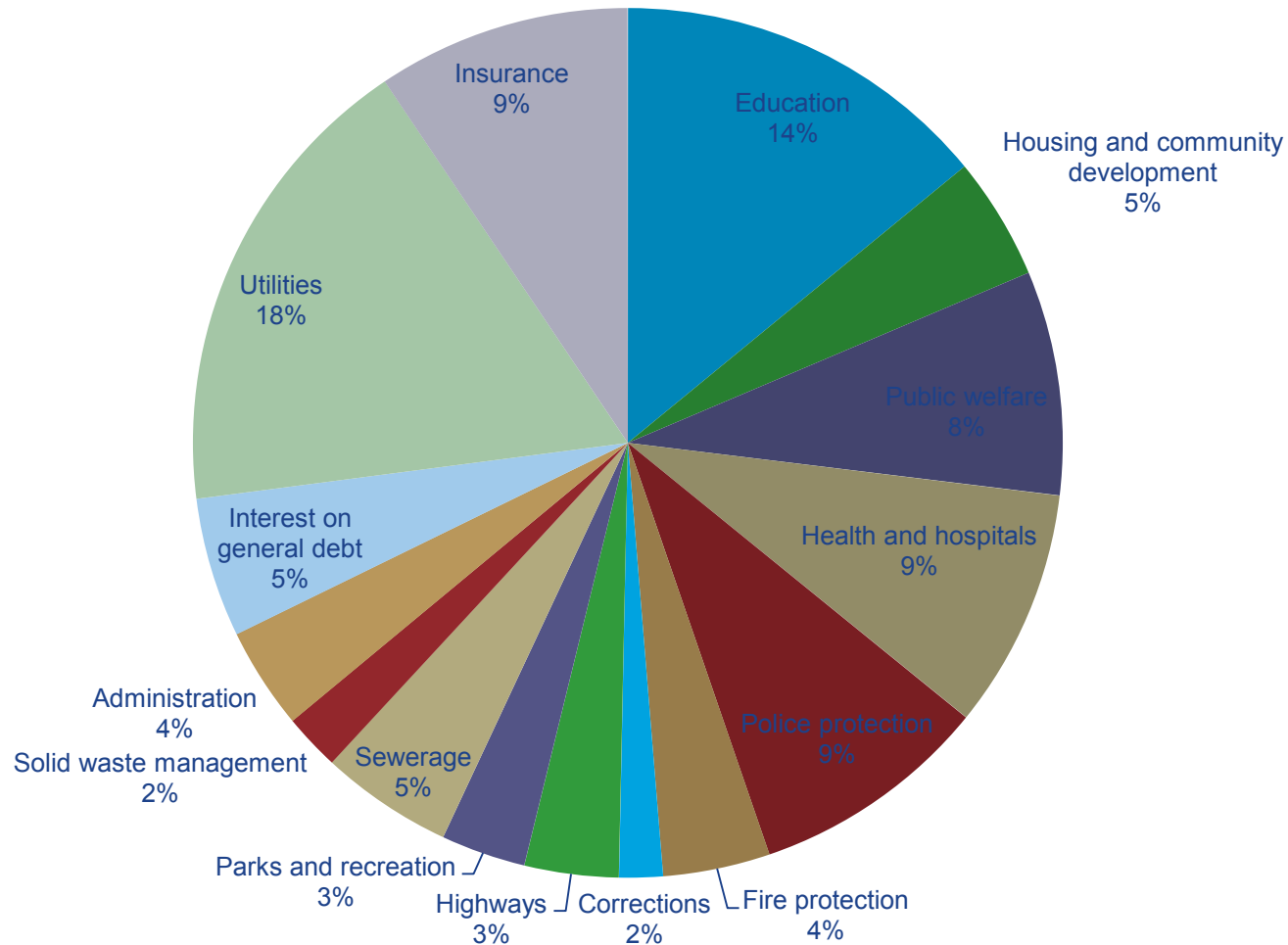
Represent:

3+ Billion Square Feet
\$2 Billion Private Financing
600+ Manufacturing plants
\$2 B Federal Commitment

President's Climate Action Plan: Expands Better Buildings

- Better Buildings includes the built environment
→ interior + exterior
- Better Buildings Accelerators
 - Designed to demonstrate specific innovative approaches, which upon successful demonstration will accelerate investment in energy efficiency
 - Four focus areas
 - ✓ Energy Data Accelerator
 - ✓ Performance Contracting Accelerator
 - ✓ Strategic Energy Management Accelerator
 - ✓ **High Performance Outdoor Lighting**

Municipal Expenditures

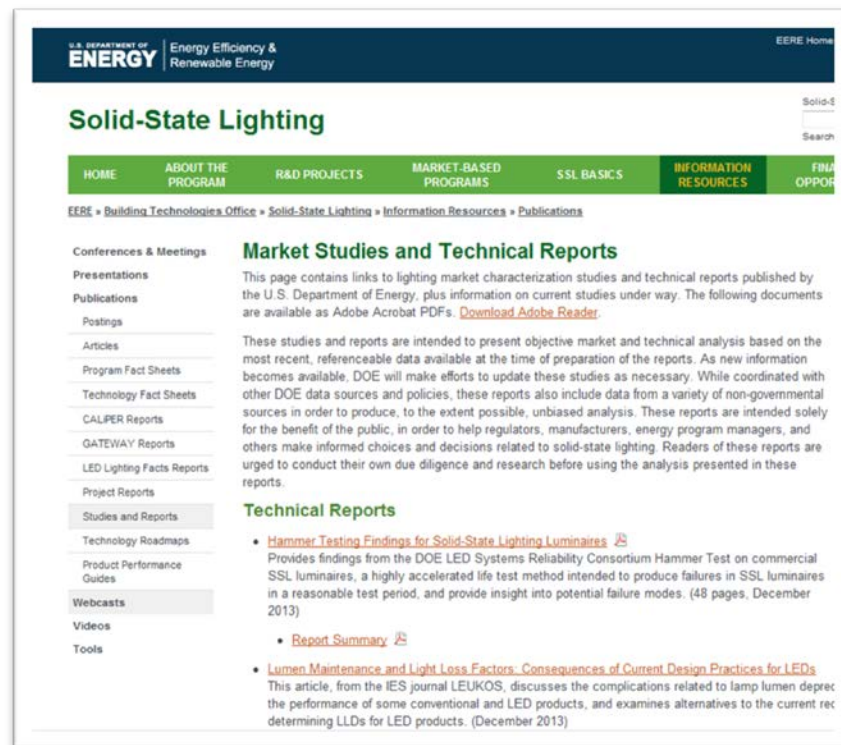


Opportunity

- To provide state and local governments with tools and frameworks to enable broad deployment of energy efficient street and outdoor lighting systems upgrades.
- Potential Savings with 100% market penetration:
 - The total source energy use of streetlight luminaires was about 452 tBtu in 2012.
 - High efficiency technologies are currently saving 3.5 tBtu each year, but a complete technology switch to high efficiency would more than cut the energy consumption in half, saving 238 tBtu per year.
 - This potential savings equates to an annual energy cost savings of \$2.3 billion.

Market Studies

- Growing evidence indicates market acceptance and satisfaction with the current technology.
- High performance outdoor lighting has the potential to reduce U.S. lighting energy usage by nearly one half and contribute significantly to our nation's climate change solutions
- DOE's draws on key partnerships with the SSL industry, research community, standards setting organizations, energy efficiency groups, utilities, and others, as well as lessons learned from the past



What is the High Performance Outdoor Lighting Accelerator (HPOLA)?

A collaborative effort designed to:

- Identify, assess, and address issues that limit investment in high efficiency technologies such as financing and utility models.
- Accelerate the adoption and use of high efficiency outdoor lighting in the public sector.
- Consider all categories of outdoor lighting for which local governments or states pay the energy bills (i.e., street/roadway, parking facility, and parks and recreation lighting).

Innovation, Leadership, and Partnership

HPOLA Goals:

- Replace over 500,000 poles during the next two years.
- Collaborate with local municipalities to demonstrate practical and effective best practices to accelerate the adoption of high-efficiency outdoor lighting.
- Improve system-wide replacement processes at the municipal level.

HPOLA Partner Status

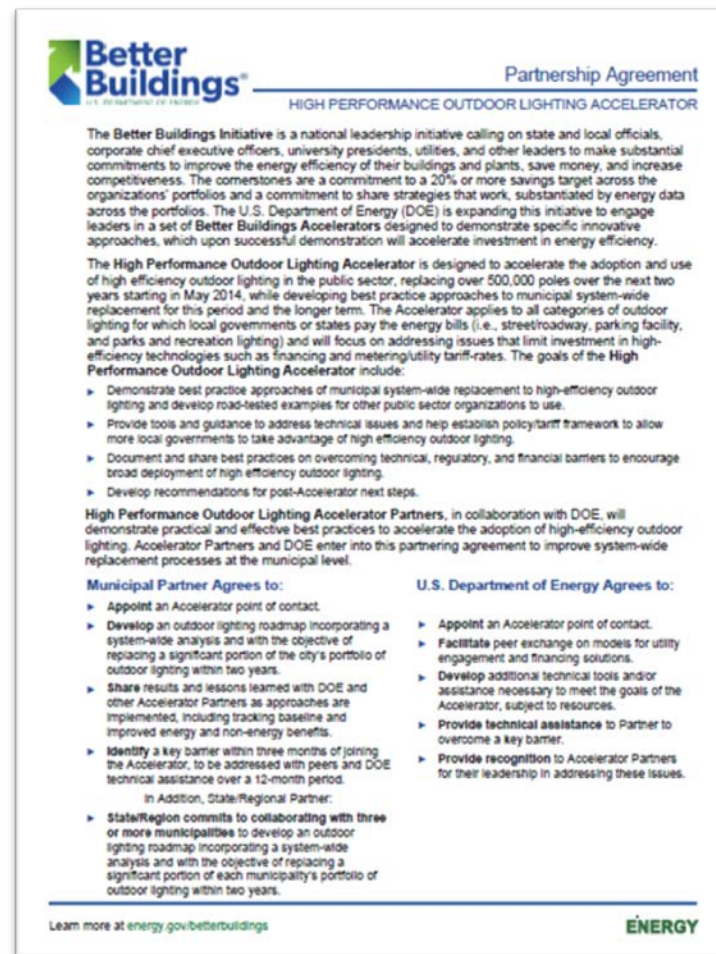
- Signatories are States, Cities and Regional Energy Networks.
- Charter Partners:
 - Detroit, MI
 - Huntington Beach, CA
 - Little Rock, AR
 - Mid-America Regional Council representing Kansas City, MO metro area
 - West Palm Beach, FL
- We have since gained five new partners since the program announcement at the Better Buildings Summit 2014: State of Rhode Island, Southeast Michigan Regional Energy Office (Detroit metro), Southern California Regional Energy Network (Los Angeles metro), Flint, MI, and Portland, ME.
- Recruitment will continue for another few weeks to reach adequate representation across various geographies, utility structures, and regulatory environments.

Benefits to Partners

- Access tools and resources to help states and municipalities navigate the transition to high efficiency outdoor street lighting.
- Access and leverage technical expertise developed under other DOE efficient outdoor lighting programs.
- Create collaborative solutions to address financial, regulatory, and technical barriers that constrain broad technology deployment.
- Receive public recognition from DOE as a national leader in municipal system-wide replacement to high efficiency outdoor lighting.

Get Involved

- Review the HPOLA Fact Sheet
- Sign and Return the Partnership Agreement (p.2)
- Join the Better Buildings Challenge
- More HPOLA information can be found at <http://www.energy.gov/better-buildings>



HPOLA Workplan

Assess HPOLA Partner profiles and project descriptions

Establish framework for problem identification, approach, and direct technical support needed

Perform in-depth assessments of Partner barriers and challenges

Determine municipality-focused best practices and strategies that provide guidance to other states, local governments, and regional energy networks

Share applicable resources to create implementation models that enable communities to pursue system-wide high performance outdoor lighting retrofit projects

Leverage US DOE's Expertise

Municipal Solid-State
STREET LIGHTING
CONSORTIUM

**Energy Efficiency and
Conservation Block Grant
Program (EECBG)**



BETTER BUILDINGS ALLIANCE



Questions?

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Better Buildings Challenge

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