



ENERGY SOLUTIONS



Bay Area Next Generation Streetlight Initiative

November 2011



Bay Area Next Generation Streetlight Initiative

Region-wide project to upgrade large volume of streetlights to advanced lighting and controls with exceptional purchase and financing terms

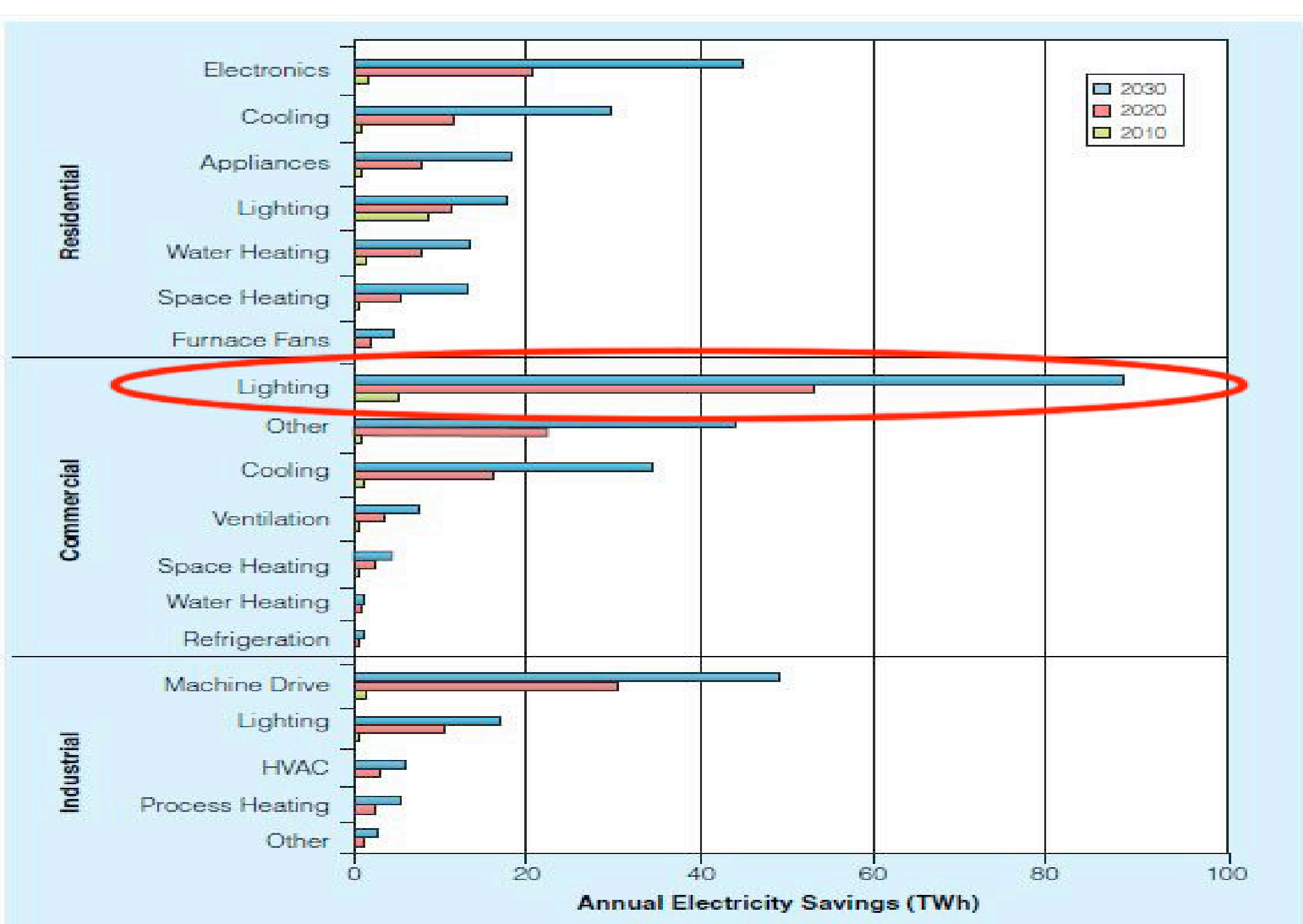


Figure 2
Realistic Achievable Potential by End-Use (Relative to Baseline)

- Project:
 - 140,000 HPS lights to LED over 5 yrs
 - \$10M/year projected savings
 - 12 years projected fixture life
 - 40,500 tons GHG / year avoided
- Upgraded: 51,035 (as of July)
- Confirmed Efficiency: 59%



CLINTON
CLIMATE
INITIATIVE

200,000+ streetlights:

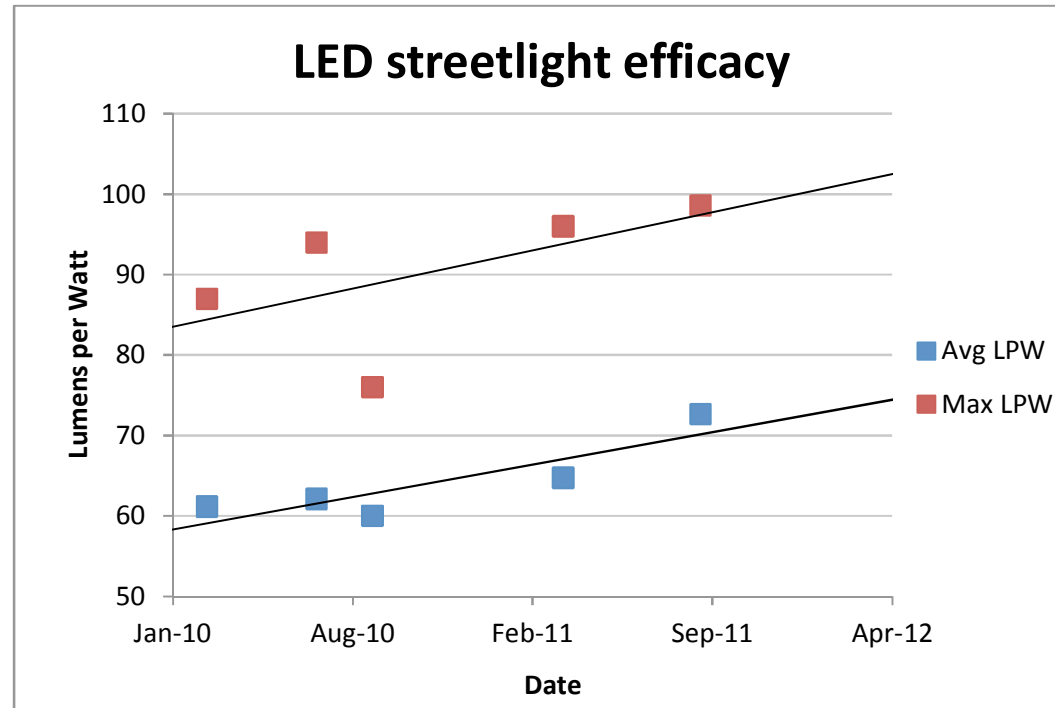
- Improved light quality
- 60%+ energy efficiency
- 100,000+ tons CO₂/year reduced
- \$15 million+/year savings
- Job creation



LED Streetlights Background



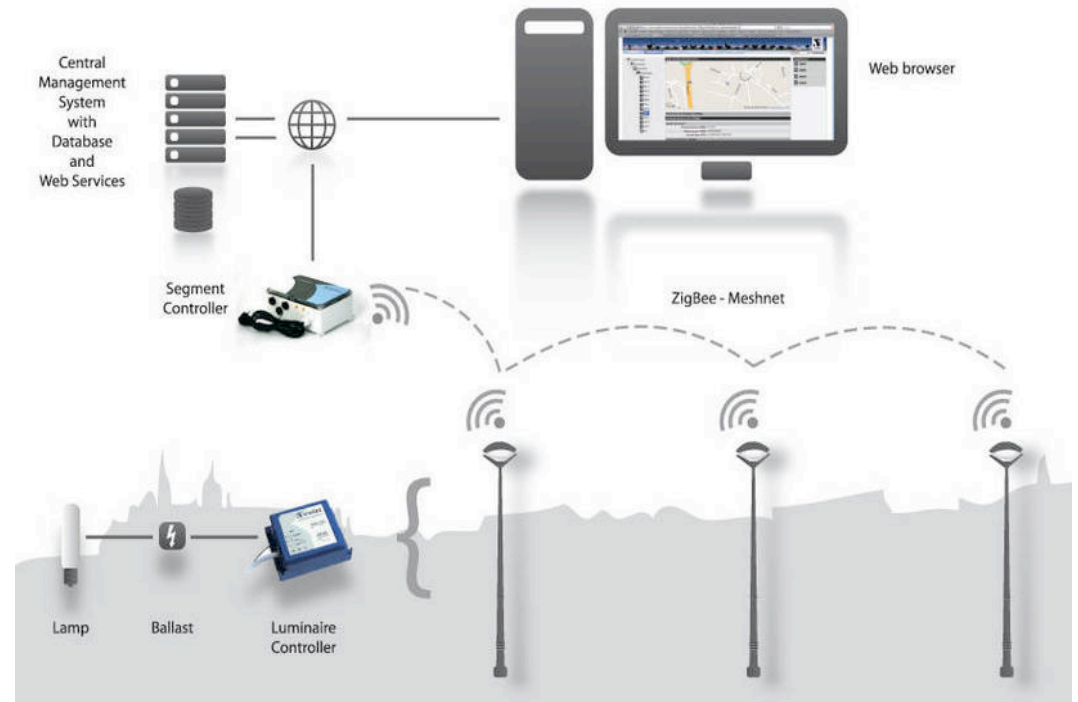
- Lower environmental impact
 - Energy savings
 - No mercury content
- Lower maintenance costs
 - Longer lifetimes
- Improved light distribution and quality
 - LED directionality
 - Color rendering, color temperature
- Increased controllability
 - Instant on/off
 - Dimmable



- Efficacy continues to improve
- Cost continues to fall
- Nationwide deployment
 - ARRA/EECBG funding for LED street/area lights: >\$40 million
 - Los Angeles, Anchorage, San Diego

Streetlight Controls

- Remotely turn lights on/off
- Set customized lighting schedules
- Detect outages, issue maintenance alarms
- Meter and log actual energy use



Source: <http://www.owlet-streetlight.de/english/owlet/>

- *Adaptive lighting management* – vary lighting output as activity levels and ambient conditions change over time

- Significant maintenance benefits
- Further energy reductions up to 30~60%
- Large-scale installations
 - Glendale, AZ; Los Angeles, CA; Austin, TX
- PG&E pilot: billing streetlights based on actual, metered consumption

- Municipal Solid State Lighting Consortium (MSSLC)
 - Model Specification for LED Roadway Luminaires
 - Tool for putting together bid documents for LED streetlight conversion projects
 - <http://www1.eere.energy.gov/buildings/ssl/specification.html>
 - Specifications for controls (forthcoming)
 - Economic modeling tool (updated CCI model, forthcoming)
 - Technology fact sheets, DOE studies, guides to understanding various LED performance specifications
- Illumination Engineering Society (IES)
- International Commission on Illumination (CIE)
- Up to date news: www.newstreetlights.com

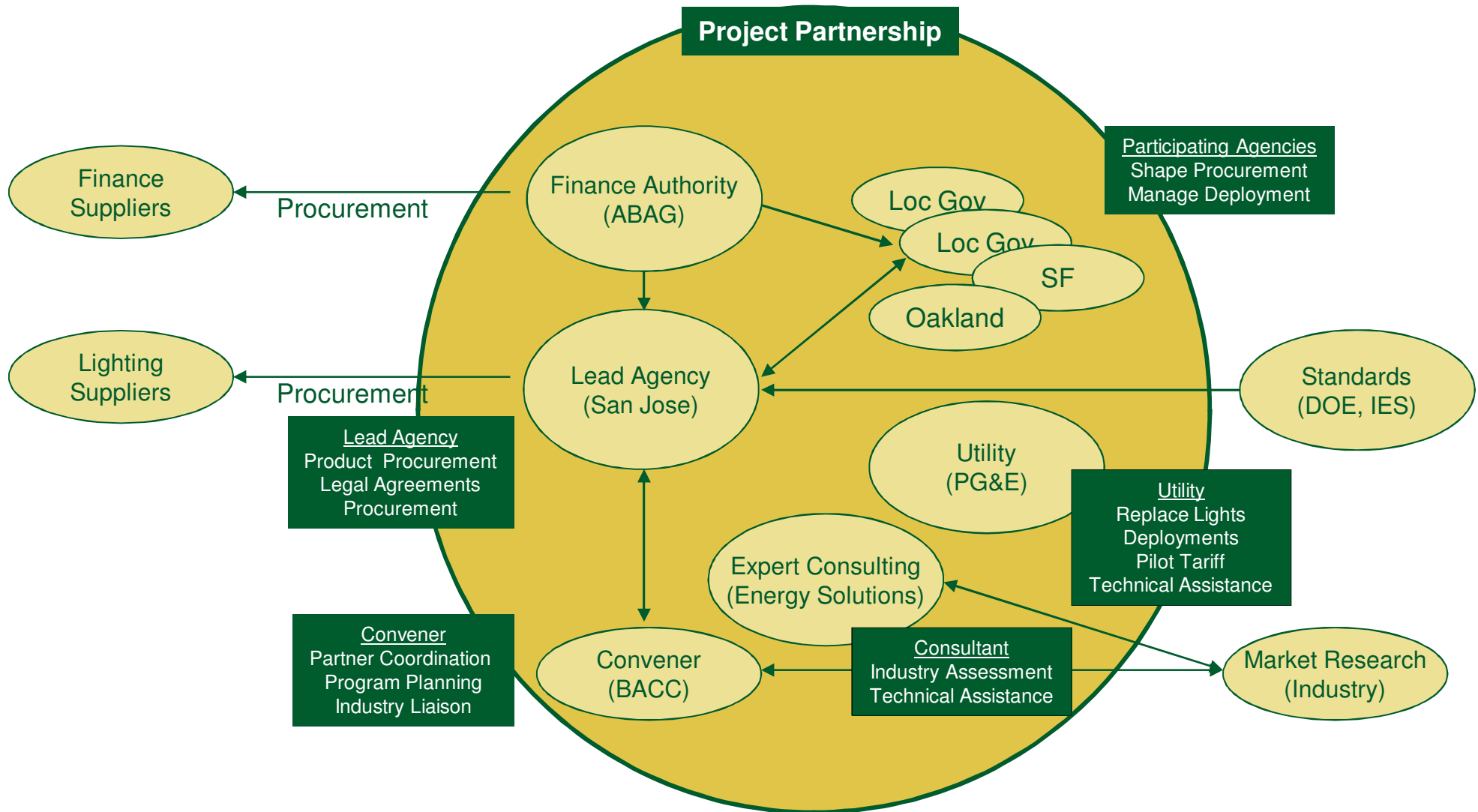
Next Generation Streetlight Initiative

Project Structure & Timing



- Unified procurement led by San Jose
- A defined set of fixtures
- Utilizing MSSL Consortium specs
- Controls and possibly “controls ready”

- Via ABAG Finance Authority
- Reduced transaction costs
- “Composite borrowing” not shared risk pool
- Optional participation
- Terms to be determined following initial analysis and bank discussions

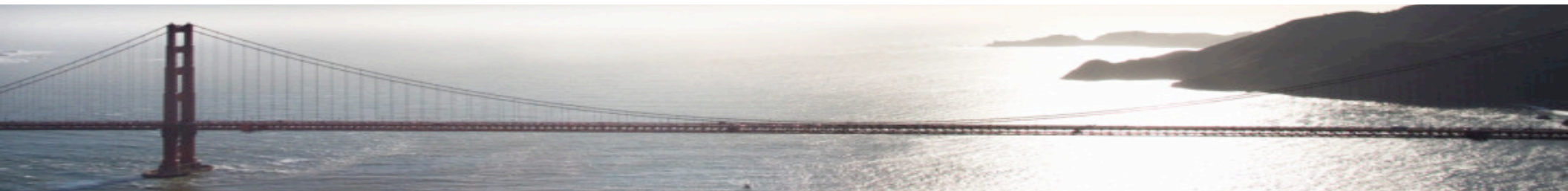


Sept	Formalize core taskforce
Q4	DOE luminaire standards announced Refine scope & standards elements Cost analysis & finance strategy Circulate survey & solicit interest
Q1	Hold webinar workshop for interested agencies Finalize participants Public Announcement of Initiative Finalize inter-agency MOUs
Q2	Finalize RFPs (product & finance) Release RFP Select vendors
Q3	Begin deployment

- Goals
 - Inventory streetlights
 - Gauge participation interest
 - Identify challenges and needs
- Circulation
 - By ABAG in 2-3 weeks
 - 9 county Bay Area

- How to complete survey
 - Online:
<http://www.zoomerang.com/Survey/WEB22DD3SZE9WR>
 - Excel version
 - Hard copy
- Questions and responses to:
Heidi Hauenstein
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(510) 482-4420 ext. 219

- Technical assistance is available through the ARRA-funded Energy Technology Assistance Program (ETAP)
- Services Include:
 - Project scoping
 - Energy savings analysis
 - Assistance defining technical specifications



Thank You

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