

Analysis of U.S. ESCO Public and Private Sector Projects: 1990-2008

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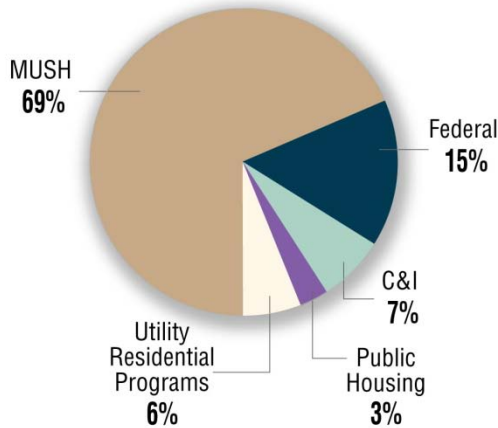


Definition of Energy Service Company (ESCO)

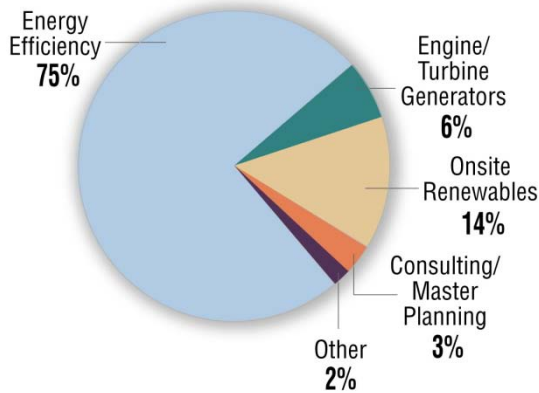
- Project developer in business of improving end-use energy efficiency:
 - Combine engineering expertise with financial services to extract untapped potential for energy efficiency
 - Integrates broad range of services: project identification, engineering & design, financing, construction, M&V of savings, maintenance, and billing
- Performance contracting: *ESCO compensation is directly tied to project's performance*
- Product and Service Strategies
 - full range of energy and facility management services
 - build/own/operate major energy facilities

Recent U.S. ESCO Market Activity

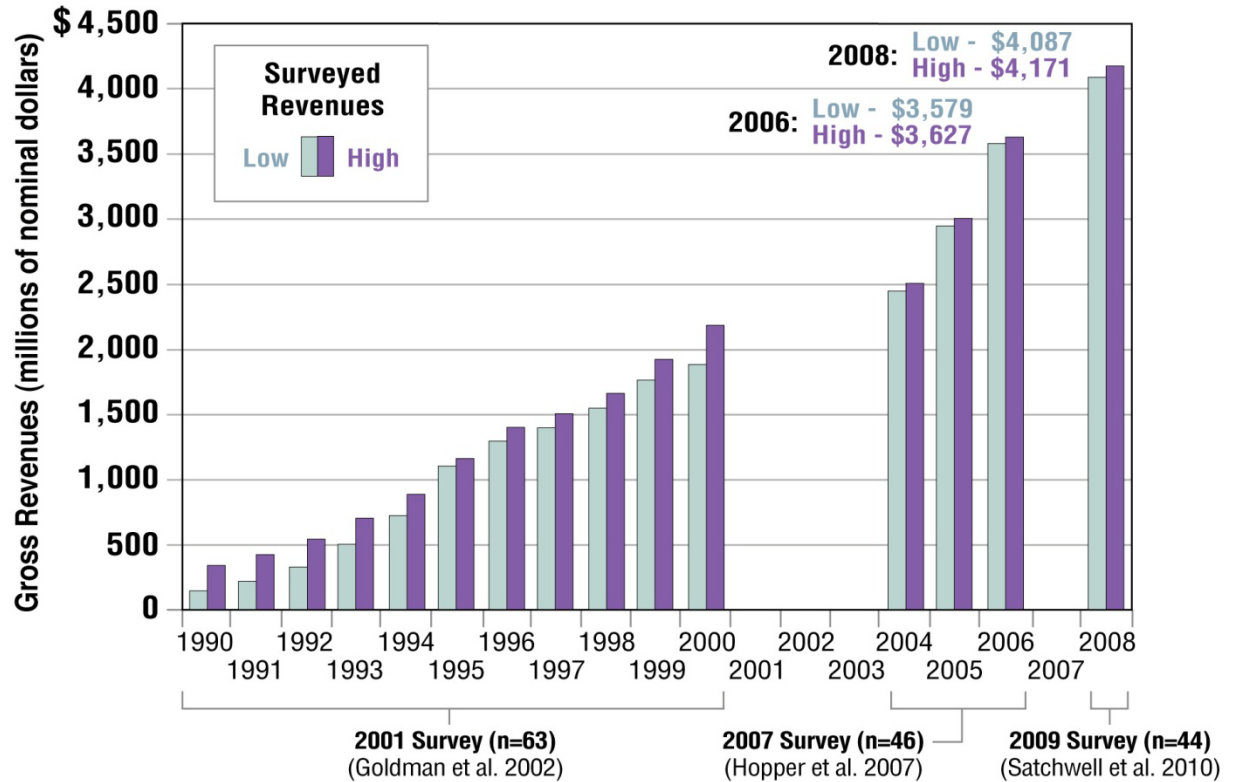
2008 Revenues (n=29)



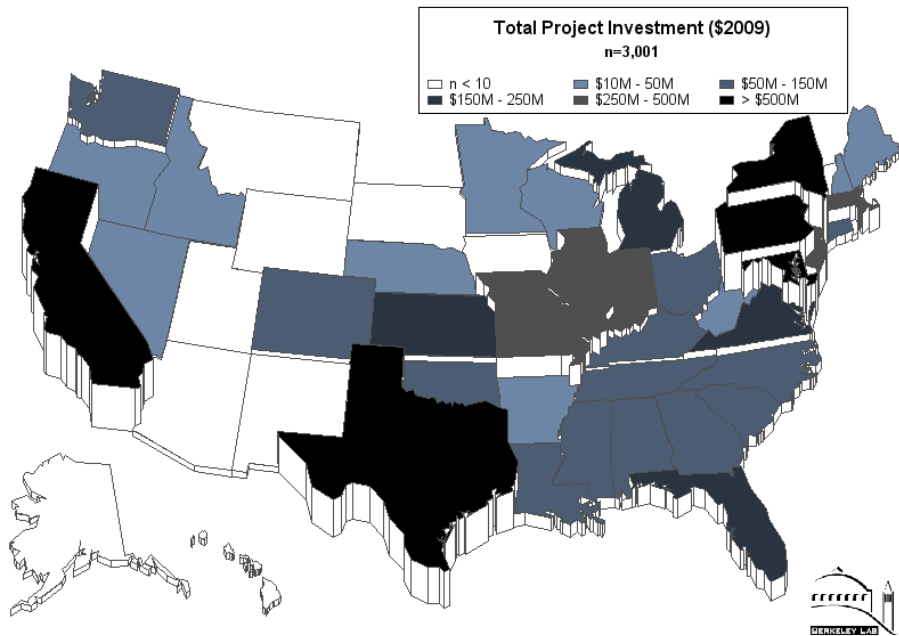
2008 Revenues (n=29)



\$4-\$5B U.S. industry with majority of revenues coming from institutional sector projects and energy efficient/onsite generation installations.



LBNL/NAESCO Database Project

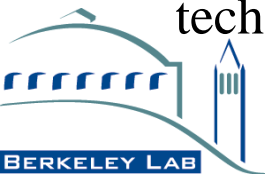
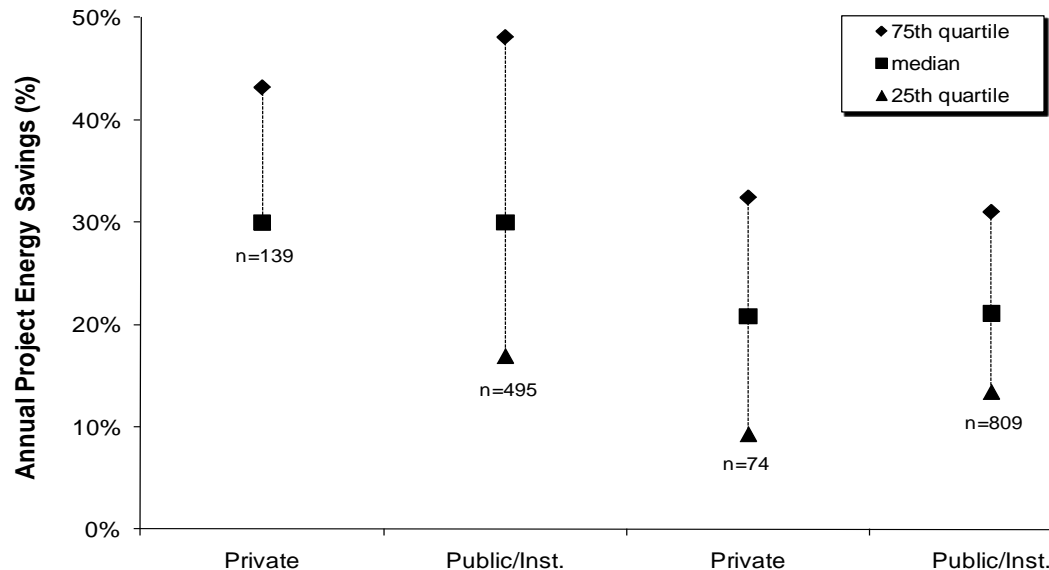


Approach:

- NAESCO/LBNL partnership with voluntary participation from industry and government agencies
- Over 3,000 ESCO projects in 49 states and half a dozen countries
- Data includes: installation cost, energy/dollar savings, installed measures, floor area, building characteristics, contract information, DSM incentives, etc.

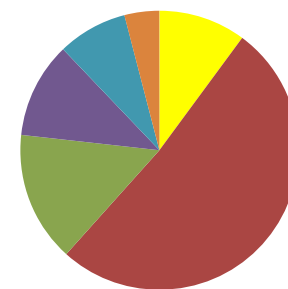
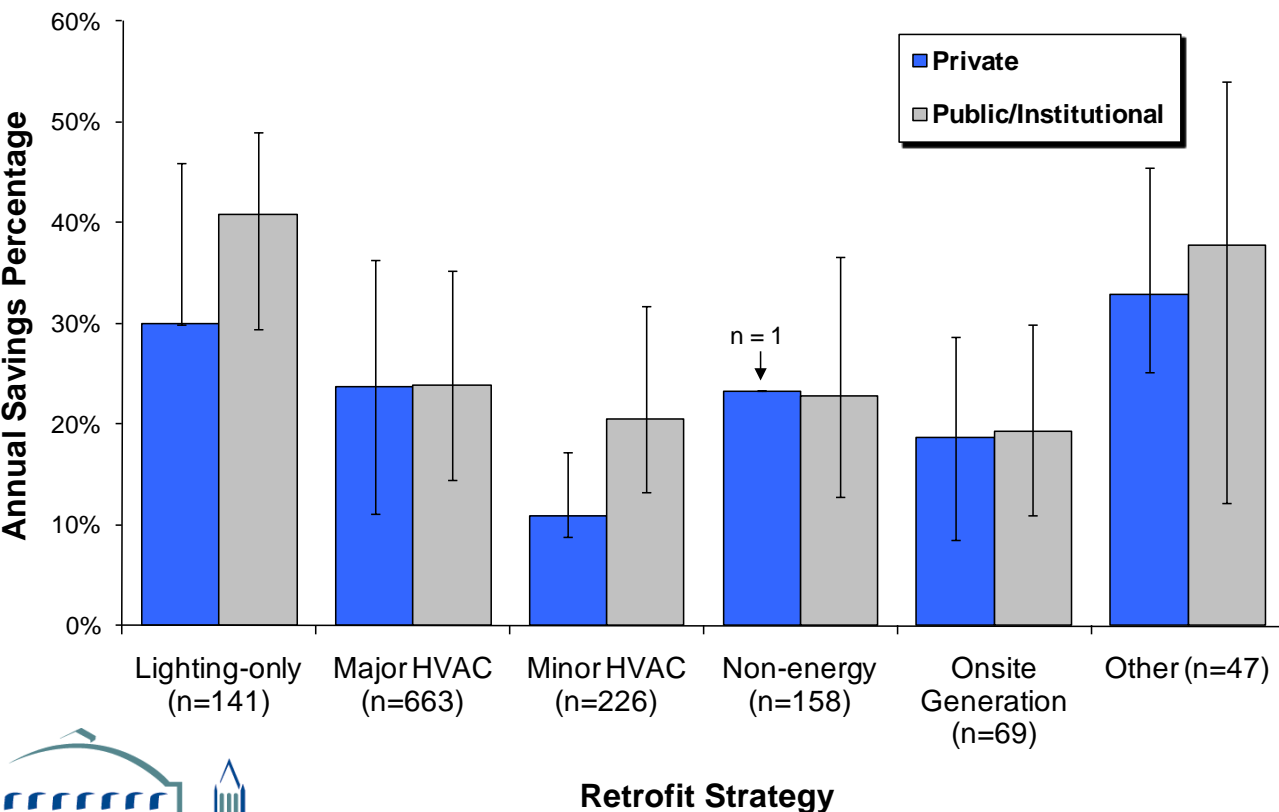
Project Objectives:

- Track industry performance and evolution
- Project data useful for economic analysis, policy development, and technology impacts

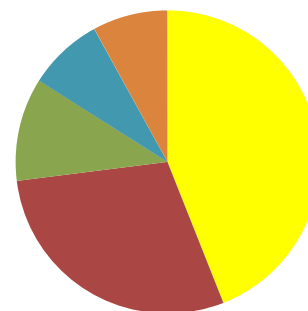


Mix and Performance of Installed Measures

- LBNL tracks 200+ different types of energy conservation measures installed by ESCOs and groups them into six “retrofit strategies”.
- There is evidence that project investment levels and payback times are *increasing* due in part to installations of more comprehensive mix of conservation measures...

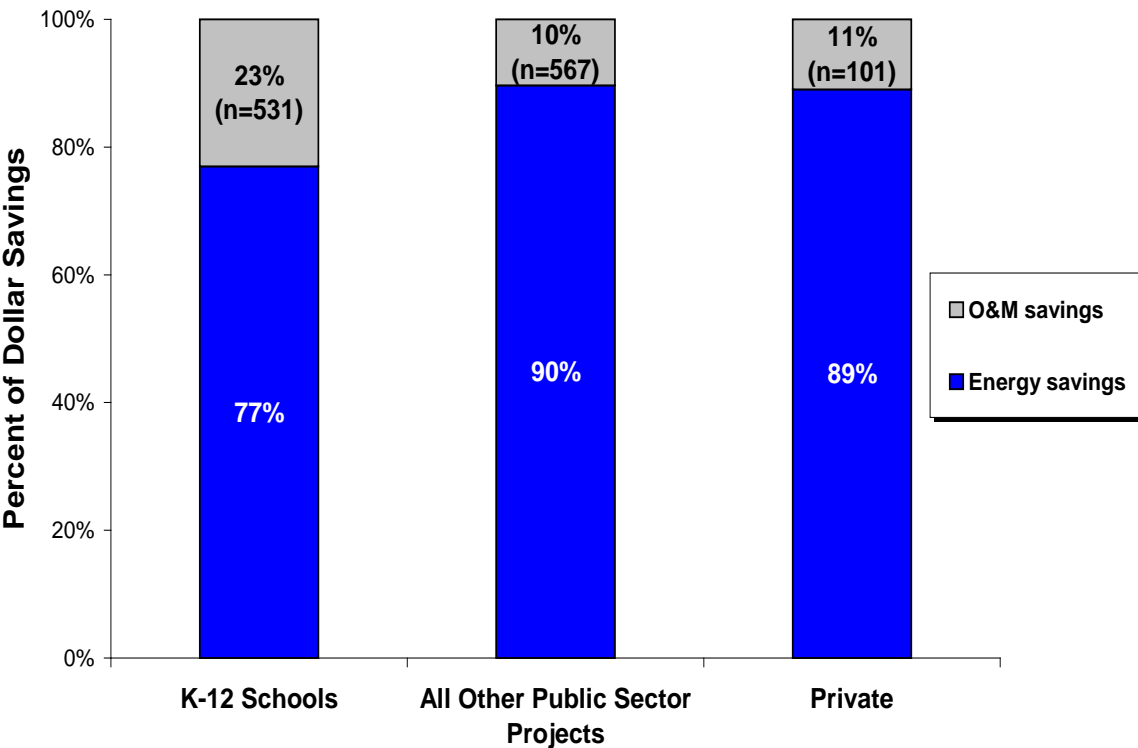


Public Sector



Private Sector

ESCO Projects Track and Claim O&M savings



- O&M savings typically account for ~10% of dollar savings (and ~23% in K-12 schools)
- ESCOs also highlight other non-energy benefits of projects (e.g., worker productivity gains), but these benefits are difficult to quantify in performance-based contracts
- Comprehensive public sector projects with long paybacks highlight the importance of M&V protocols being able to fully account for O&M savings and behavioral changes...