

Lawrence Berkeley National Laboratory

LBL Publications

Title

U.S. ESCO Industry Report: Industry Size and Recent Market Trends, 2022- 2024

Permalink

<https://escholarship.org/uc/item/1p54z46h>

Authors

Chelminski, Kathryn

Wong, Johnny

Robson, Dana

Publication Date

2026-09-10

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at <https://creativecommons.org/licenses/by-nc-nd/4.0/>

U.S. ESCO Industry Report: Industry Size and Recent Market Trends, 2022-2024

Kathryn Chelminski, Johnny Wong, and Dana Robson



Energy Technologies Area
BERKELEY LAB

September 2026

Acknowledgements

- This project was funded by the U.S. Department of Energy's Federal Energy Management Program (FEMP) and the Office of State and Community Energy Programs (SCEP) under Lawrence Berkeley National Laboratory contract No. DE-AC02-05CH11231.
- We would like to acknowledge the following people for important financial and/or technical support of this research: Kurmit Rockwell, Priya Stiller, and Tyler Harris (FEMP); Sean Williamson (SCEP); and Timothy Unruh and Natasha Shah (NAESCO), and Liz Stuart (consultant to NAESCO).
- We would also like to thank the following people for their contributions and input: Corey Kravitz (Nenni & Assoc), Laura Carpenter (formerly of SCEP), Dave Birr (Synchronous Energy Solutions), Aldo Mazzaferro (NV5); and Pete Larsen and JP Carvallo (Berkeley Lab).
- All remaining errors and omissions are the responsibility of the authors.



Outline



Outline

- Acronyms
- Definitions
- Key Findings
- Background and Approach
- Empirical Analysis
 - ESCO Market Size
 - Measurement and Verification (M&V)
 - Financing and Incentives
 - Drivers of ESPC Projects
 - Technical Assistance
 - Challenges
- Discussion
- Conclusions
- Technical Appendix



Acronyms

- AI: Artificial Intelligence
- CAGR: Compound Annual Growth Rate
- C&I: Commercial & Industrial
- DR: Demand response
- ECM: Energy Conservation Measure
- EaaS: Energy/Efficiency-as-a-Service
- EE: Energy efficiency
- ESA: Energy sales agreement
- ESCO: Energy Service Company
- ESPC: Energy Savings Performance Contracting
- GDP: Gross domestic product
- HVAC: Heating, ventilation and air conditioning
- IGA: Investment Grade Audit
- M&A: Merger & acquisition
- M&V: Measurement & verification
- MUSH: Municipal, University, Schools, Hospitals
- NAESCO: National Association of Energy Service Companies
- NOITA: Notice of Intent to Award
- NOO: Notice of Opportunity
- O&M: Operations & maintenance
- OR: Owner's representative
- PPA: Power purchasing agreement
- PC: Performance contracting
- RFP/RFQ: Request for Proposals/ Request for Qualifications
- SEO: State energy office
- TA: Technical assistance
- TORFP: Task Order Request for Proposal
- UESC: Utility Energy Service Contract



Definitions and Scope

Energy Service Companies (ESCOs) are firms that provide energy efficiency-related services (or other related value-added services) for which performance contracting makes up a core part of its efficiency-related business. In performance contracting, an ESCO guarantees energy, water, and/or dollar savings for a project to the customer, and the ESCO compensation is linked to the performance of the contract.

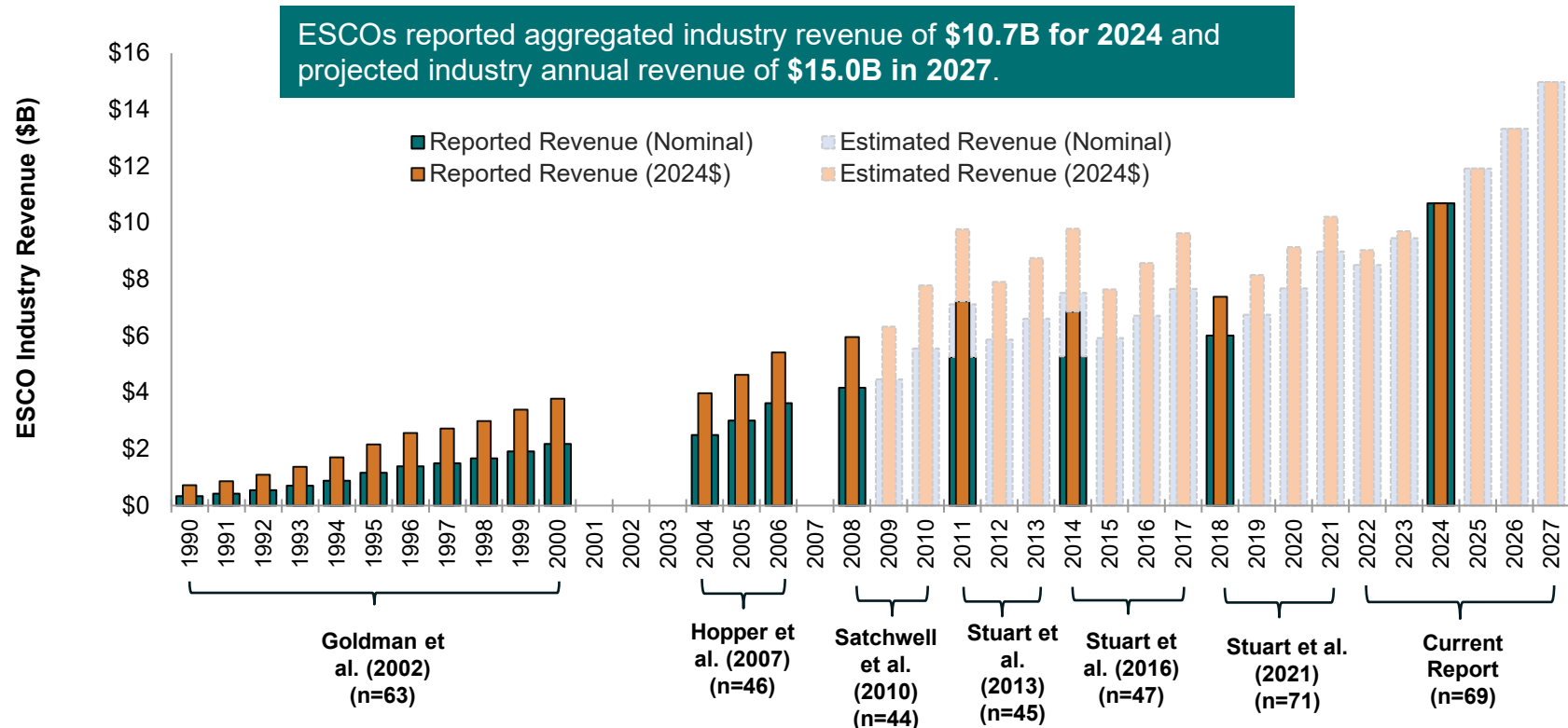
- For purposes of defining the industry scope and estimating industry revenue in the report, we include only those companies that meet our definition of an ESCO:
 - We exclude firms such as heating, ventilation and air conditioning (HVAC), lighting, windows, or insulation contractors; engineering and architectural firms; and mechanical contractors that provide energy efficiency equipment and energy management services, but not performance contracts.
 - We exclude companies that provide on-site generation or renewable energy systems without also installing energy efficiency measures, and companies that offer energy efficiency services, but typically do not enter into long-term contracts that link compensation to project savings and/or economic performance.
 - Some excluded companies serve as subcontractors to ESCOs and may occasionally engage in performance contracting, but not as a core business.
- We identify companies for whom performance contracting is a core part of its energy efficiency business, as those that self-define as an ESCO in our surveys and interviews, and those that clearly indicate on their websites or through public news releases that they offer performance contracting.
- This report covers the U.S. ESCO industry size and characteristics for the period from 2022 to 2024.



Key Findings



Key Findings: ESCO Revenue* Over Time Adjusted for Inflation

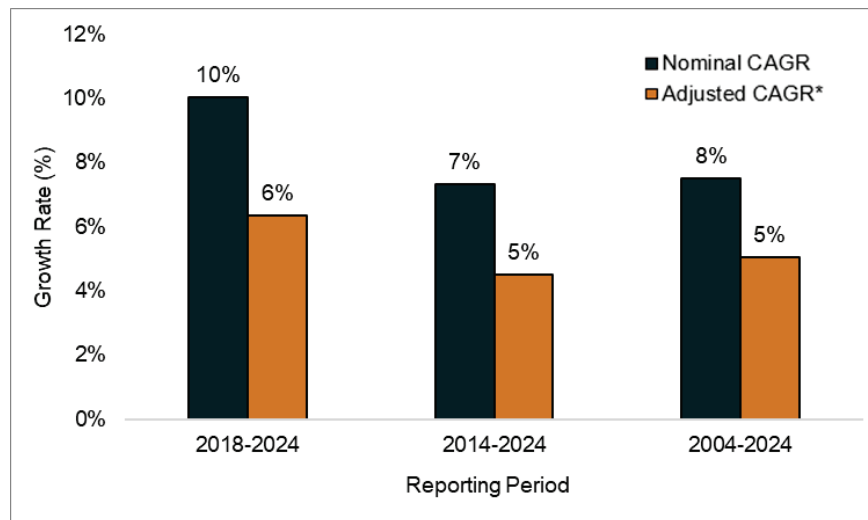


Revenue adjusted to 2024\$ using GDP deflator. All revenue displayed in the report are in US dollars (\$). Throughout the report, the term "n= XX" will be used to denote the sample size based on the number of ESCO responses to a particular survey or survey question
Source: United States Bureau of Economic Analysis

Key Findings: ESCO Revenue and Adjusted Growth Rate

- Revenue grew 103% since 2014 and 78% since 2018. However, after adjusting for inflation, revenue growth was less significant at 56% (since 2014) and 45% (since 2018) (see prior slide).
- We also calculated the nominal and adjusted compound annual growth rate (CAGR) for three reporting periods.
 - The recent reporting period (2018-2024) shows a faster growth rate (CAGR), both nominal and adjusted, compared to the other two reporting periods (2014-2024 and 2004-2024).
 - The adjusted CAGR for the recent reporting period (2018-2024) shows inflation had a larger impact (4% difference) than previous reporting periods (2% between 2014-2024, and 3% between 2018-2024).

CAGR Calculation Across Reporting Periods

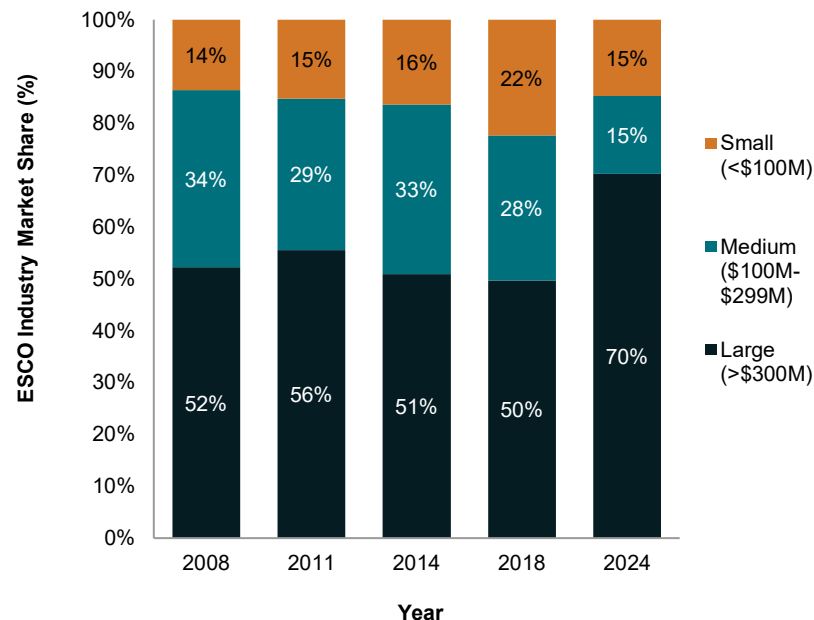


Key Findings: Revenue Share Trends by ESCO

- We categorize ESCOs by revenue size [large (>\$300M); medium (\$100M-\$299M); and small (<\$100M)] and compare these three groups.
- Large-sized ESCOs saw an increase of 20% in total share of market revenues in 2024 compared to 2018 (from 50% to 70%). However, this share is less significant after adjusting for inflation (see next slide).
- There was a significant decline in the share of revenue captured by small- and medium-sized ESCOs between 2018 and 2024.

ESCO Size	Total Revenue (\$B)				
	2008	2011	2014	2018	2024
Small	\$0.56	\$0.80	\$0.86	\$1.34	\$1.56
Medium	\$1.42	\$1.53	\$1.72	\$1.69	\$1.61
Large	\$2.17	\$2.93	\$2.69	\$2.99	\$7.52
Total:	\$4.15	\$5.26	\$5.28	\$6.02	10.69
Total sample (n=)	38	45	47	71	69

Revenue Share Trends by ESCO Size
(2008-2024)



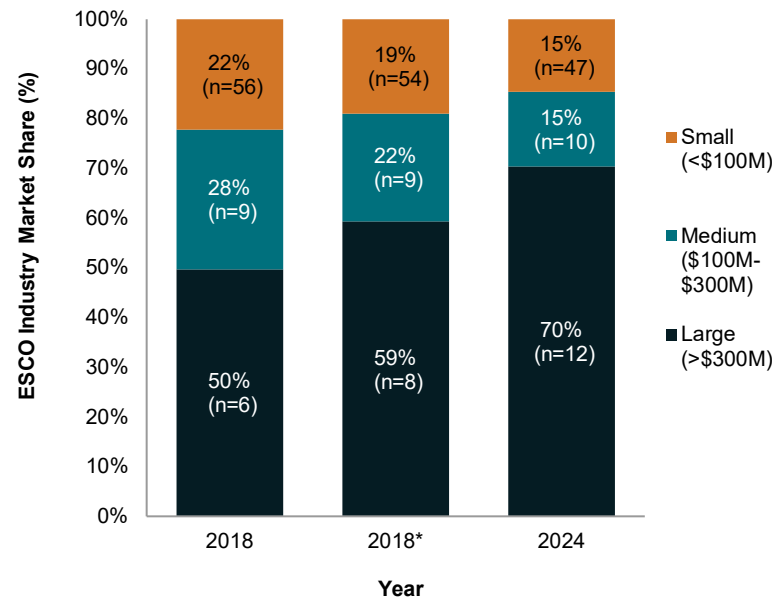
Note on sample size: the sample size is based on the total ESCO respondents to the ESCO market survey in each respective year's report for 2011, 2014, 2018, 2024. The 2008 report included a smaller sample size for the analysis on this slide than other reporting periods.

Key Findings: Adjusted Revenue Share Trends by ESCO (2018 vs 2024)

- In the table below, the adjusted column compares 2018 nominal, 2018 adjusted* and 2024 revenue by ESCO size, which demonstrates the impact of inflation. The 2018 adjusted revenue* column was determined using 2018 adjusted revenue for ESCO size classifications.
- After adjusting to 2024\$, two small-sized ESCOs in 2018 were adjusted to medium-sized and two medium-sized were adjusted to large-sized.
- After adjustment, the nominal and real market share for 2018 saw a slight increase in market share for large-sized ESCOs (9%) and a slight decrease for both medium (-6%) and small-sized ESCOs (-3%).

ESCO Size	Total Revenue (\$B)		
	2018 (Nominal)	2018 (Adjusted)*	2024
Small	\$1.34	\$1.41	\$1.56
Medium	\$1.69	\$1.59	\$1.61
Large	\$2.99	\$4.38	\$7.52
Total:	\$6.02	\$7.38	\$6.02
Total sample (n=)	71	71	69

Revenue Share Trends by ESCO Size
(2018 and 2024)



Key Findings: Revenue Trends by Market Segment & Business Activity

Market Segment

- The largest share of revenue in 2024 was generated in the state/local government (\$1.8B) and K-12 schools (\$3.2B) market segments, which is consistent with previous studies.
- The state/local government market revenue share grew between 2018 and 2024, while the federal market share declined slightly.

ESCO Business Activity

- We find that performance-based contracting continues to be a major vehicle for projects in the state/local government, K-12 schools, university/college, and healthcare market segments (the “MUSH” market), as well as for federal projects.
- In contrast, for the commercial and industrial (C&I) market segment, design-build projects were the most common business activity (68% of revenue generated by design-build projects).

Share of Revenue by Market Segment

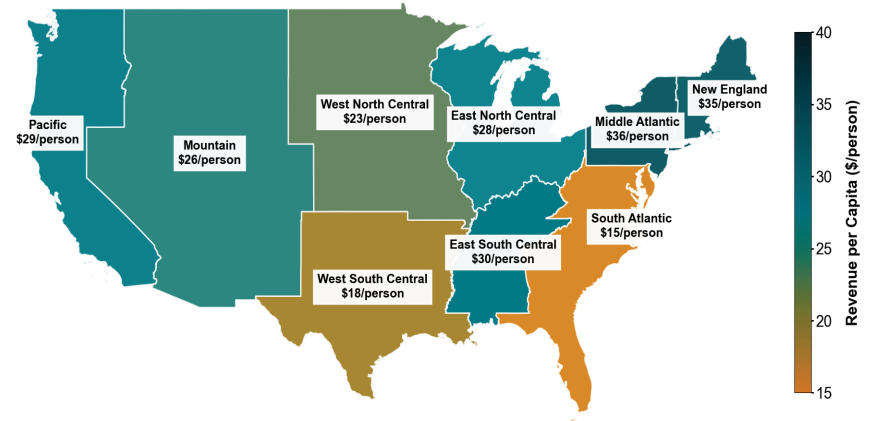
Market Segment	Total 2024 Revenue (\$B)	Share of Total Revenue (%)
Federal	\$1.60	15%
State/Local	\$1.80	17%
K-12 Schools	\$3.22	30%
University/College	\$0.62	6%
Healthcare	\$0.28	3%
Public Housing/Other	\$0.84	8%
Commercial/Industrial	\$0.59	6%
Unknown*	\$1.74	16%
Total	\$10.69	100%

*Unknown are additional revenues captured through the Delphi process plus ESCOs that did not report share of revenue by market segment in their survey response. The sample of ESCOs that reported revenue share by market segment were different than the ESCOs that reported regional revenue share.

Key Findings: Revenue Market Breakdown

- A regional analysis of revenue reveals that the largest share of ESCO revenue occurred in the Pacific census region (\$1.54B), while the smallest share of revenue was in the West North Central census region (\$498M) (see next slide).
- We compared regional revenue share by ESCO size in 2024 to 2018. There is a trend in several regions whereby the large ESCOs take a larger market share away from medium- or small-sized ESCOs, e.g. in the West South Central, West North Central, New England, East South Central, and South Atlantic regions.
- These findings change when adjusting for population density on a per capita basis. The Mid-Atlantic and New England regions led in terms of largest share of revenue on a per capita basis.

Revenue per Capita* by U.S. Census Region (2024)



Key Findings: Revenue by Region

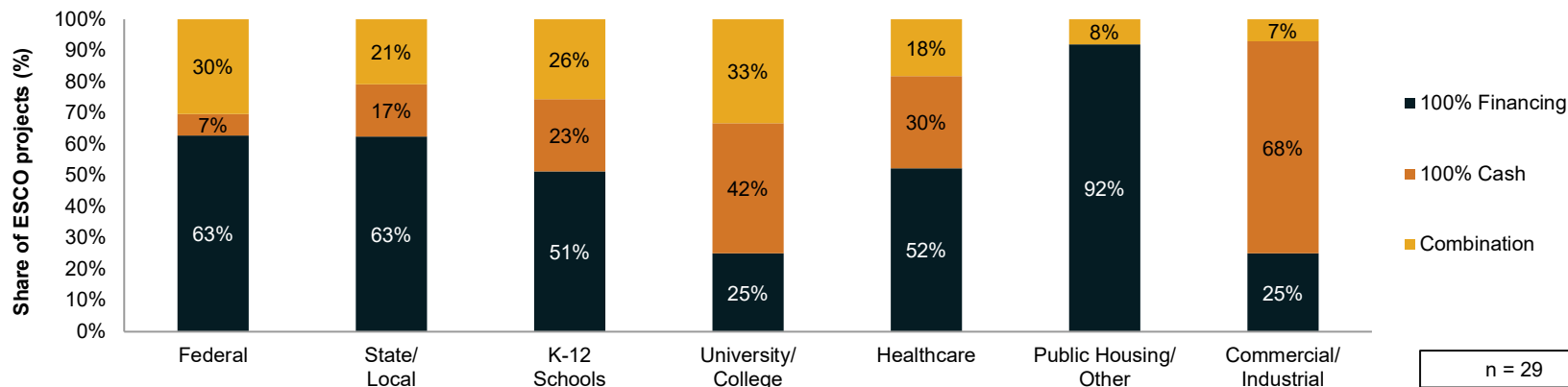
				Large (>\$300M)	Medium (\$100M-\$299M)	Small (<\$100M)	
U.S. Census Sub-region	States	Total Revenue (\$M) (2024)	Revenue per capita (\$/person) (2024)	Large ESCOs Revenue (\$M)	Medium ESCOs Revenue (\$M)	Small ESCOs Revenue (\$M)	Region Revenue % (2024)**
New England	CT, MA, ME, NH, RI, VT	\$533	\$35	\$453	\$2	\$78	6%
Mid-Atlantic	CT, PA, NJ, NY	\$1,507	\$36	\$815	\$378	\$315	18%
South Atlantic	DE, DC, GA, FL, MD, NC, SC, VA, WV	\$1,057	\$15	\$741	\$143	\$173	12%
East South Central	AL, KY, MS, TN	\$593	\$30	\$466	\$65	\$62	7%
West South Central	AR, LA, OK, TX	\$791	\$18	\$650	\$12	\$128	9%
East North Central	IL, IN, MI, OH, WI	\$1,338	\$28	\$1,158	\$63	\$117	16%
West North Central	IA, KS, MN, MO, ND, NE, SD	\$498	\$23	\$457	\$7	\$35	6%
Mountain	AZ, CO, ID, MT, NV, NM, UT, WY	\$675	\$26	\$513	\$147	\$15	8%
Pacific	AK, CA, HI, OR, WA	\$1,538	\$29	\$1,045	\$342	\$151	18%
Unknown*		\$2,161		\$1,220	\$450	\$491	
Total – All Regions		\$10,690		\$7,517	\$1,609	\$1,564	



Key Findings: Financing of Projects

- ESCOs reported that across all market segments, the most common form of financing was traditional financing (67% of respondents). Forms of traditional financing include loans, leases, and bonds.
 - In the public housing market segment, traditional financing was the only form of financing reported.
- ESCOs reported that 100% financing was used most frequently across market segments (53% of projects), compared to 100% cash (27% of projects).
- Combined cash and financing (hybrid) was only used in 20% of projects as reported by ESCOs.

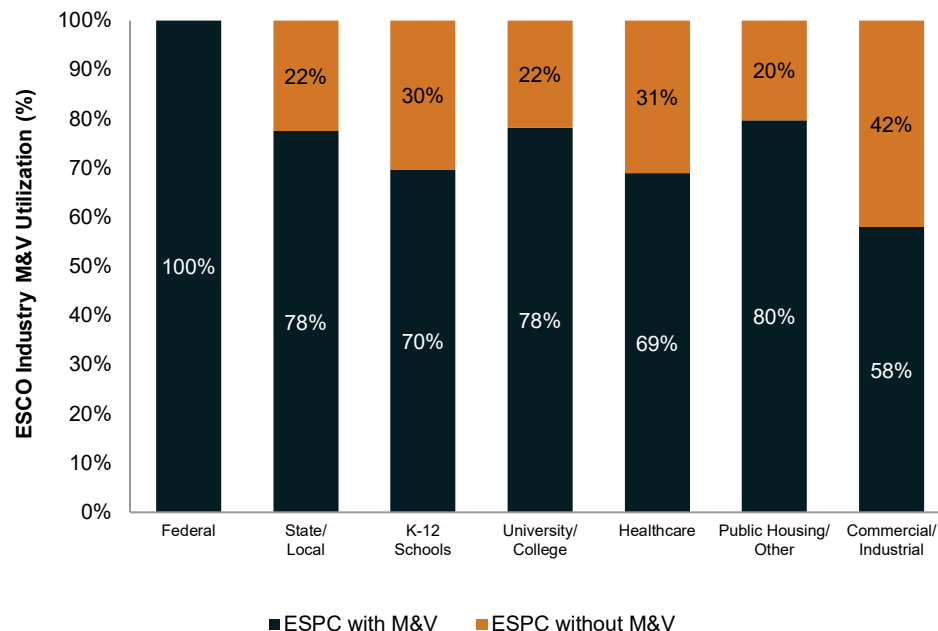
Forms of Financing by Market Segment



Key Findings: M&V Contracts in 2024

- ESCOs reported that they delivered measurement and verification (M&V) for 70% of energy savings performance contracting (ESPC) projects in the K-12 schools market compared to 78% of ESPC projects in the state/local government and university/college market segments.
- ESCOs reported that they offered M&V contracts in the majority of their ESPC projects across all market segments (76% on average) (see next slide).

ESPC M&V Delivery by Market Segment



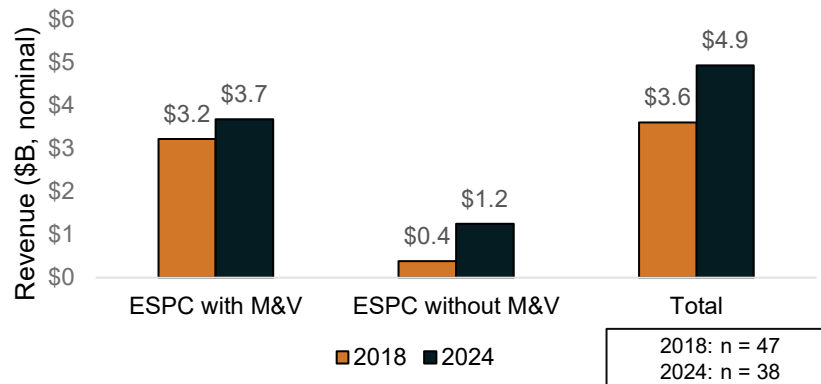
n = 38



Key Findings: ESPC M&V Delivery (2018 and 2024)

- Overall, the majority of revenue generated with ESPC projects included M&V contracts (76%).
- Since 2018, there was a greater share of growth for ESPC projects without M&V contracts.

ESPC M&V Delivery (2018 and 2024)

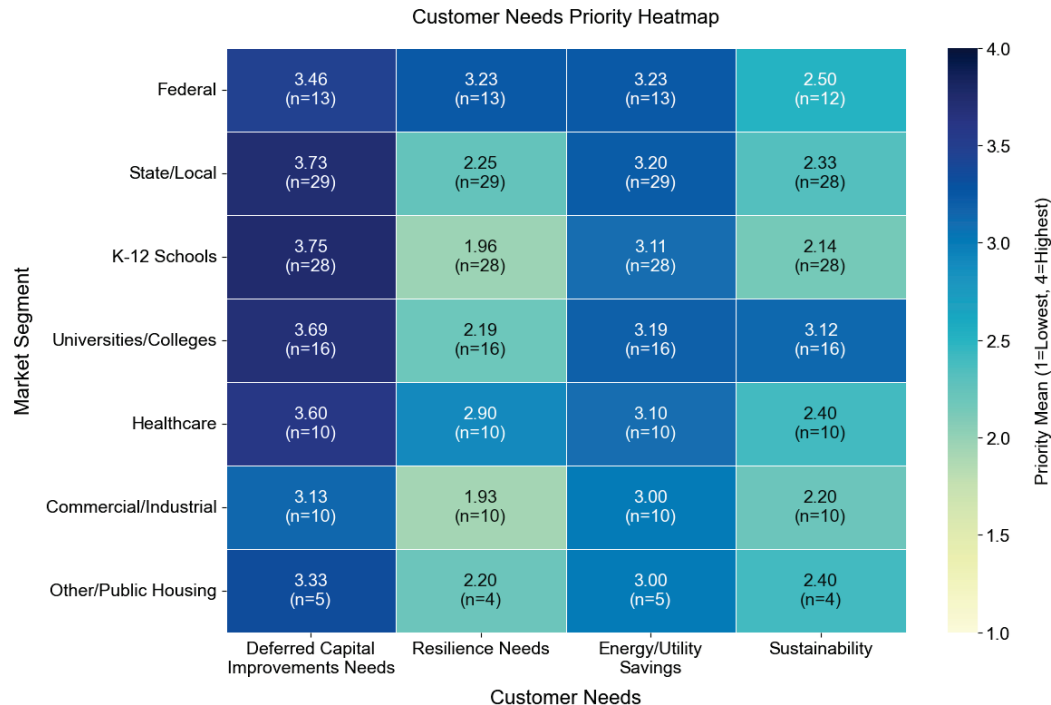


Total Revenue in (\$B), Nominal														
	Federal		State/ Local		K-12 Schools		University/ College		Healthcare		Public Housing/ Other		C&I	
	2018	2024	2018	2024	2018	2024	2018	2024	2018	2024	2018	2024	2018	2024
ESPC with M&V	\$0.50	\$0.35	\$0.86	\$1.09	\$1.06	\$1.70	\$0.43	\$0.34	\$0.16	\$0.10	\$0.11	\$0.04	\$0.11	\$0.06
ESPC without M&V	\$0.02	\$0.00	\$0.06	\$0.32	\$0.12	\$0.74	\$0.03	\$0.10	\$0.07	\$0.04	\$0.02	\$0.01	\$0.06	\$0.04
Sub-total:	\$0.52	\$0.35	\$0.92	\$1.41	\$1.18	\$2.44	\$0.46	\$0.44	\$0.23	\$0.14	\$0.12	\$0.05	\$0.17	\$0.11



Key Findings: Drivers of ESPC

- Major customer priorities identified by ESCOs were deferred capital improvement needs across nearly all market segments, followed by energy/utility savings.
- The most frequently deployed energy security measures across projects were onsite generation without a microgrid, battery storage, and microgrids.
- ESCOs further identified that across market segments, the biggest non-energy benefits driving ESPC projects were avoided capital and O&M costs, while tradable credits were declining as drivers across several market segments.

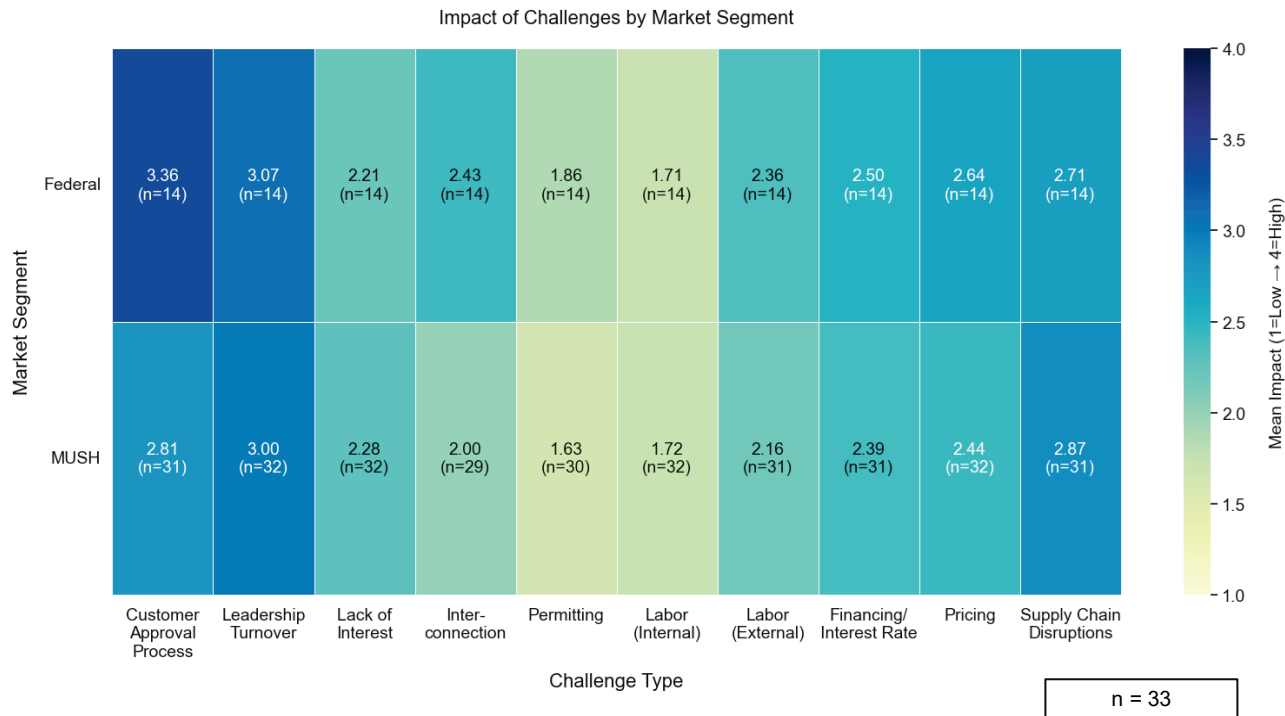


n = 31



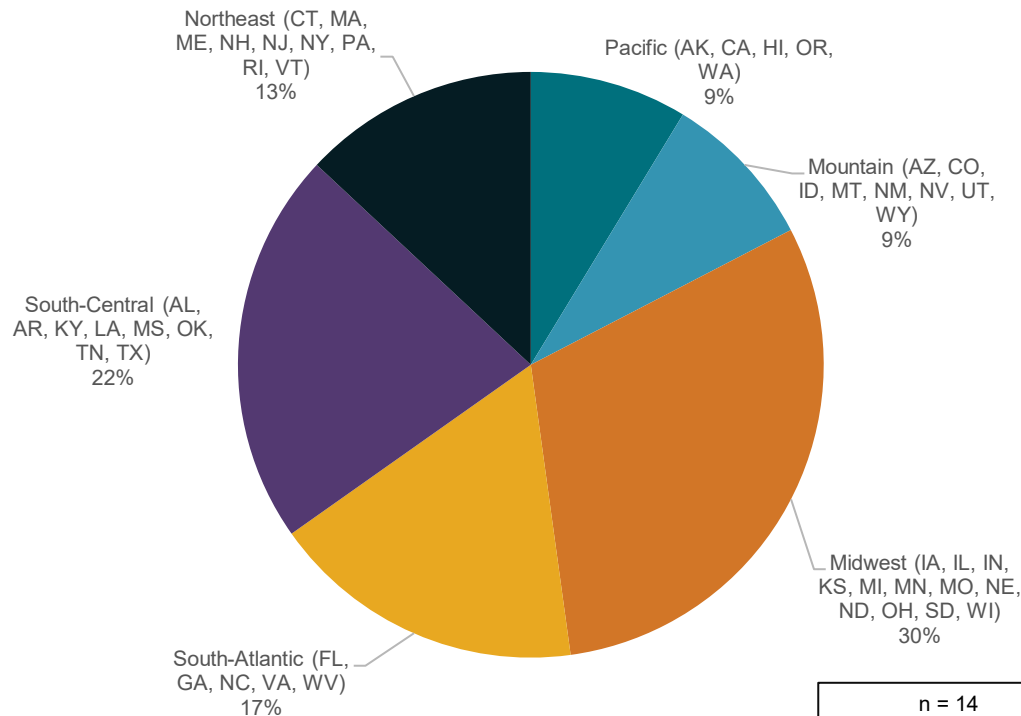
Key Findings: Project Challenges by Market Segment (2022-2024)

- ESCOs reported the biggest challenges facing the federal and MUSH markets were during the customer approval process and due to leadership turnover.
- Supply chain disruptions were also indicated as a major challenge for both MUSH and federal projects, with a slightly higher average impact on the MUSH market.



Key Findings: Geographical Challenges Finding Subcontractors

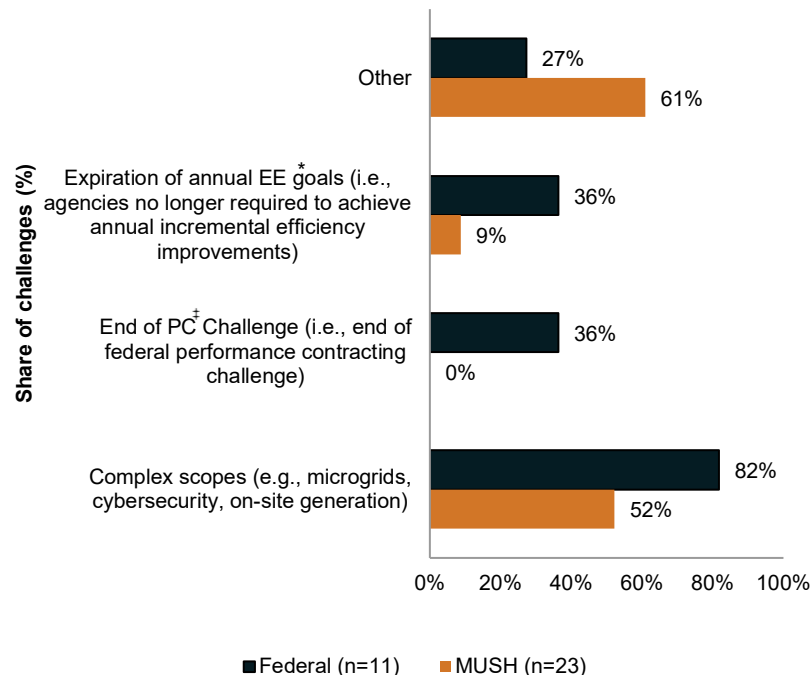
- A majority of ESCOs (68%) report experiencing regional challenges in finding qualified subcontractors.
- The greatest regional challenges in finding subcontractors were reported for the Midwest (30%), followed by South-Central (22%), and South-Atlantic (17%) regions.



Key Findings: Potential Opportunities

- Policymakers, researchers, and other industry stakeholders can consider using Artificial Intelligence (AI) approaches to identify (1) project development bottlenecks across the country; and (2) suggest remedies to shorten development timelines (e.g., eliminating unnecessary or redundant requirements).
- Policymakers at the local, state, and federal levels can consider implementing targeted workforce development programs to address subcontractor constraints in the Midwest, South-Central, and South-Atlantic regions.

Reasons for Delays in Federal and MUSH Projects

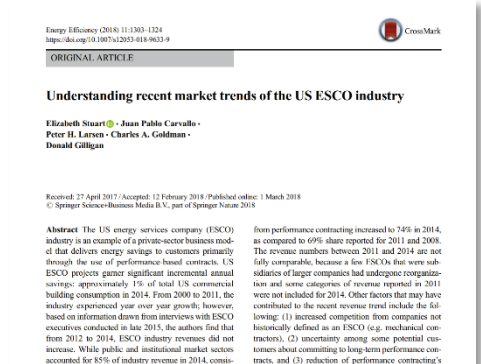
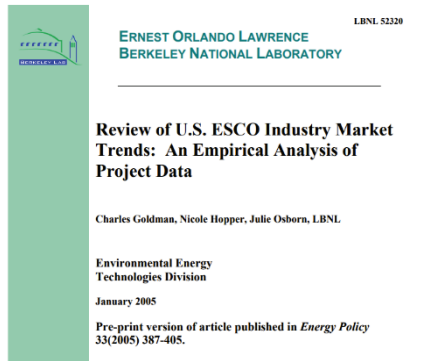


Background and Approach



Survey History

- Berkeley Lab has produced a report on the size and characteristics of the U.S. ESCO industry every few years for the past 20+ years.
- The most recent Berkeley Lab report was published in 2021, including data over a three-year period from 2018 to 2021.
- In addition to publishing reports on industry size, Berkeley Lab also publishes periodic research detailing the performance of projects.
- The next slide provides a summary of recent reports and major findings.



Selected Berkeley Lab U.S. ESCO Industry Research

ESCO Market Analyses		ESCO Project Data Analyses	
Report Link	Key Findings	Report Link	Key Findings
Goldman et al. 2005	Decrease in use of utility incentives; enabling policies have supported growth of ESCO industry	Goldman et al. 2002	First study to document savings, costs, and economics from a large sample of ESCO projects
Bharvirkar et al. 2008	Characterized ESPC and energy efficiency activity in the state government market	Larsen et al. 2012	K-12 schools and other public buildings install capital-intensive, low-energy savings measures to address maintenance backlogs
Satchwell et al. 2010	Sustained ESCO industry growth and focus on performance contracting	Carvallo et al. 2015	Industry-wide electricity and fuel savings total approximately 1% of U.S. commercial building consumption
Stuart et al. 2016; Stuart et al 2018	ESCO industry revenue plateaued for the first time	Larsen et al. 2017	Estimated remaining ESCO market potential of \$100B+
Stuart et al. 2021	ESCO industry growing again; reached \$6B in 2018	Carvallo et al. 2019	Project investment per sq. ft. increasing; variety and number of measures increasing
Chelminski et al. 2026 (this report)	ESCO industry grew to \$10.7B in 2024	Baik et al. 2025	Analyzed the net benefits of ESPC projects using Berkeley Lab's eProject Builder database

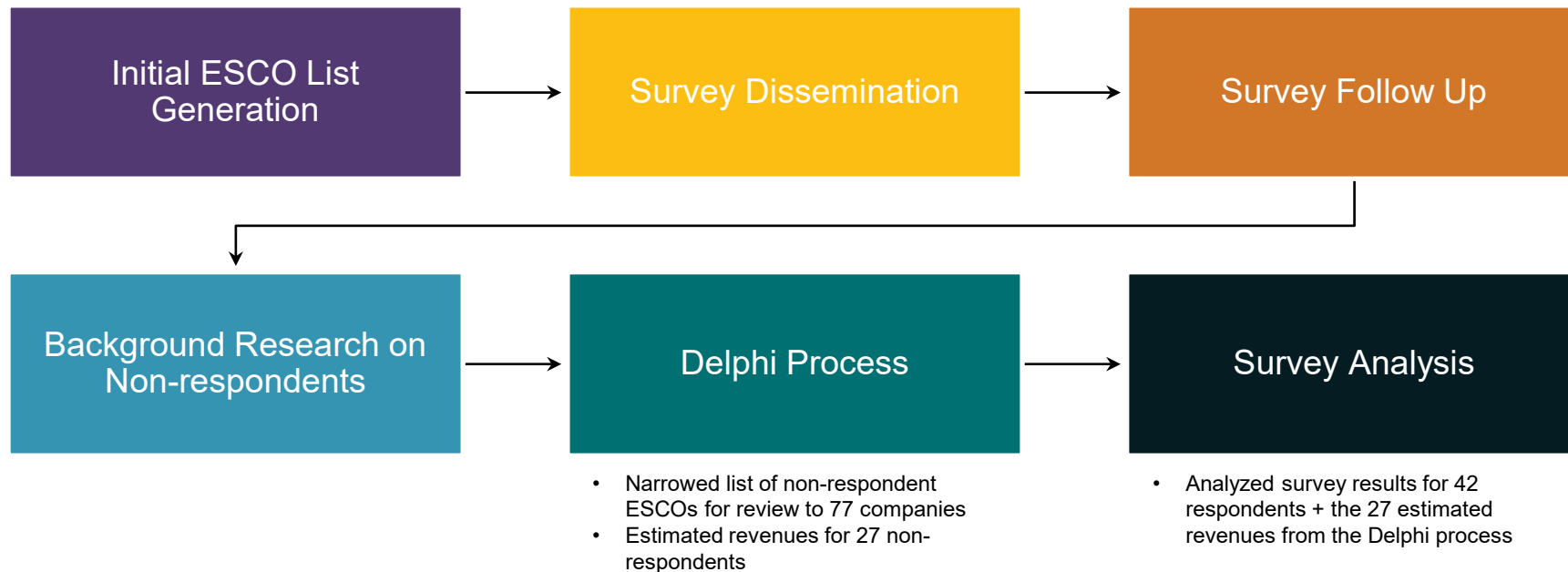


ESCO Market Survey Workflow

- 181 ESCOs identified
- List narrowed to 134 after feedback from NAESCO

- Survey sent to 134 ESCOs in March 2025 and closed September 2025

- Multiple rounds of follow up through Aug 2025
- Received 42 responses (31% response rate)*
- See Technical Appendix TA02 for full response rate



Survey Method

- Berkeley Lab developed an initial list of 181 potential ESCOs using a range of sources:
 - NAESCO existing membership list
 - Prospective ESCOs identified by NAESCO
 - U.S. DOE Qualified List of qualified energy service providers
 - State performance contracting programs' lists of pre-qualified ESCOs
 - Online research with follow-up email and phone communication to determine other performance contractors
 - ESCOs with active accounts on the eProject Builder online system
 - ESCOs identified during past Berkeley Lab studies
- After review by Berkeley Lab and NAESCO, a final list of 134 ESCOs were sent a request to participate in the survey.
 - Berkeley Lab and NAESCO followed up with survey respondents to improve response rate after initial outreach.
- Following the survey dissemination, follow up, and responses, the research team conducted market research and conferred with industry experts during the Delphi process to determine which firms were still relevant to include and which to exclude, due to mergers & acquisitions (M&A), bankruptcy, or other rationale.
- The final response rate to the survey was 42 ESCOs.



Data Sources for ESCO Market Survey

- The primary source of 2024 ESCO industry revenue information is from survey responses from ESCO executives that completed the survey during the spring through fall of 2025.
- Berkeley Lab also collected background information on non-respondent ESCOs from the following sources:
 - ESCO websites
 - Publicly-available information on ESCO company financials (e.g. U.S. Securities and Exchange Commission 10K filings)
 - A Delphi-based elicitation process conducted with industry experts



Approach to Filling Data Gaps

- The purpose of the Delphi elicitation process was to:
 - Discuss ESCO industry revenue growth trends from 2022-2024, with a focus on how those trends may have impacted the revenues of ESCOs during that period;
 - Review the list of non-respondent companies to determine which are likely to have significant enough revenues to include in our industry estimate;
 - Determine the estimated 2024 revenue from energy services for each identified company; and
 - Determine anticipated growth rates for the identified companies.
- The Delphi process meeting was held in September 2025 and included six external ESCO industry experts.
- A total of 77 companies were reviewed during this process, which represented the non-respondent companies out of the 134 in the original outreach list. Out of the 77 companies, 27 were ultimately selected for inclusion in the Delphi estimates.



Response Rate

- The final number of combined responses used in this research effort (direct survey responses + Delphi process responses) is 69, which includes:
 - 42 ESCOs that directly participated in the online survey, and
 - Data for an additional 27 ESCOs estimated through the Delphi process.
- For 2024, the survey captured about 80% of total market revenue (\$8.50B out of \$10.70B).

Total Responses per Survey

Year	Respondent ESCOs
Satchwell et al. 2010	29 of 38
Stuart et al. 2013	35 of 45
Stuart et al. 2016, Stuart et al. 2018	43 of 47
Stuart et al. 2021	57 of 71
Chelminski et al. 2025	42 of 134

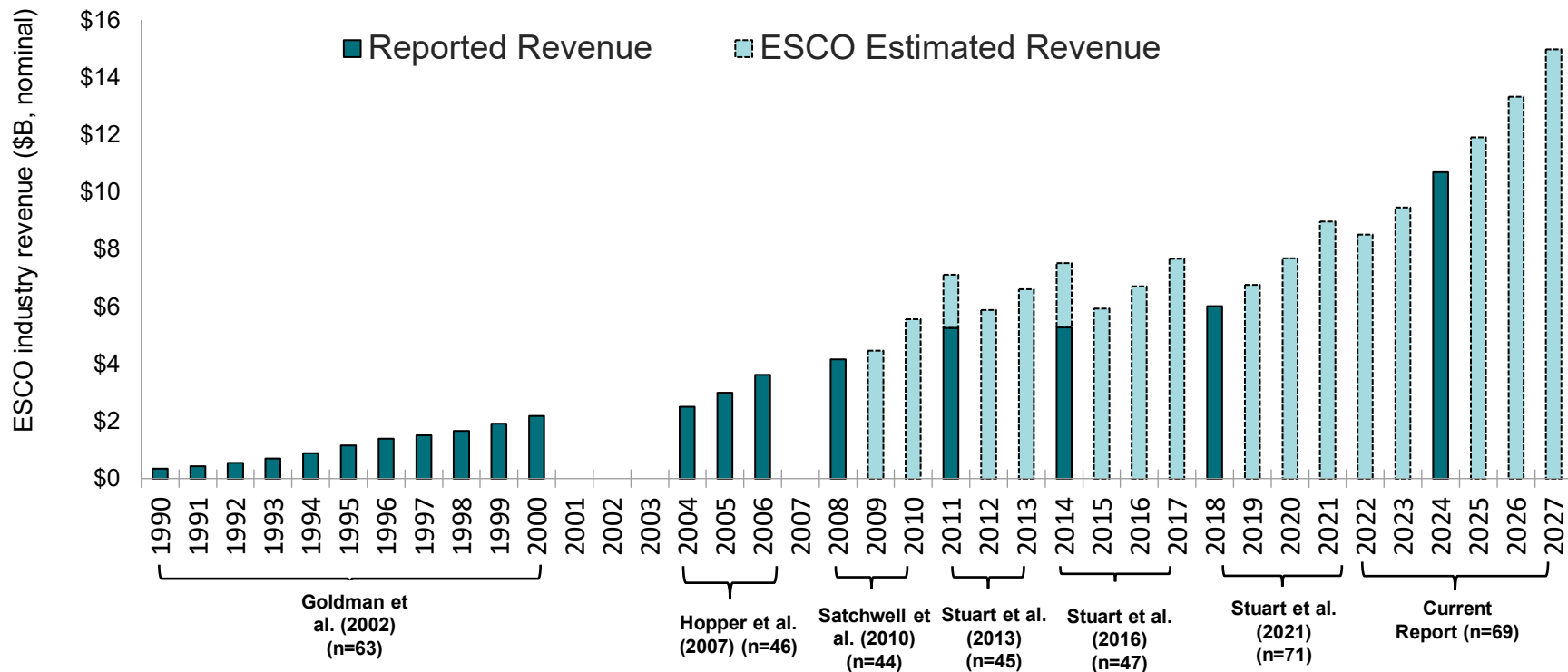


ESCO Market Size: *Revenue 2024 and Future Growth*



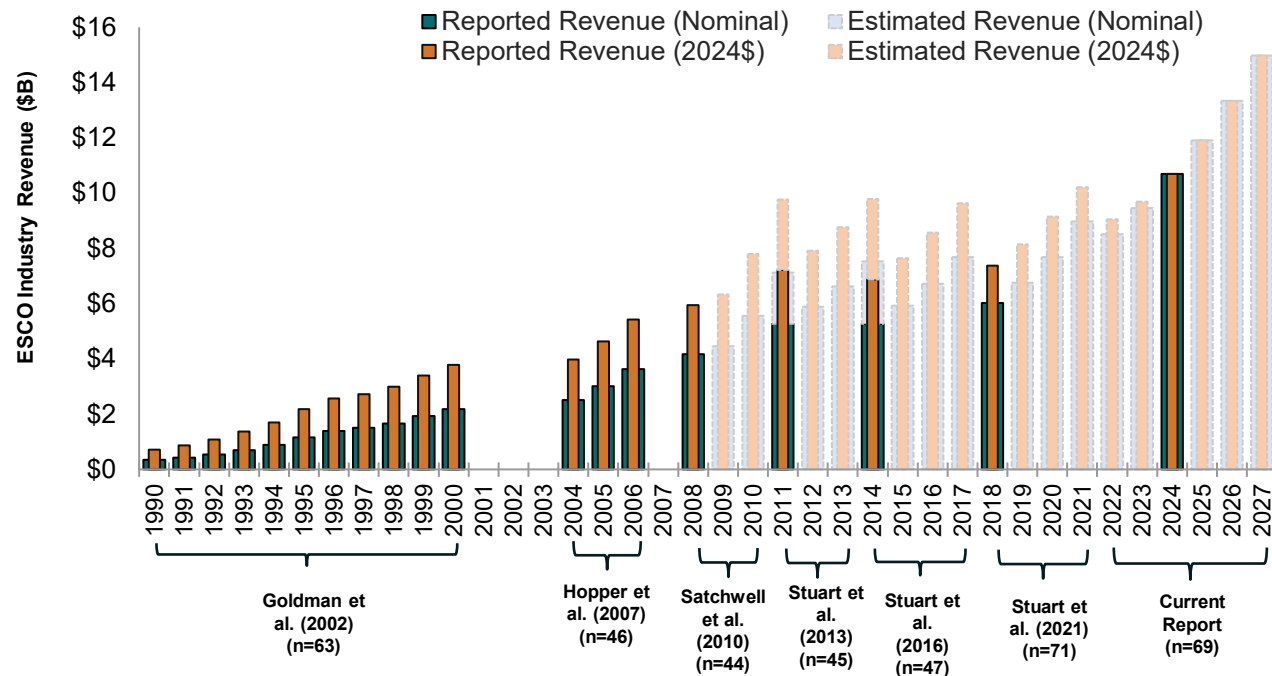
Historic and Forecasted ESCO Industry Revenue Growth

In 2024, the ESCO industry reported revenue of **\$10.7 billion**.



ESCO Industry Revenue* Growth Adjusted for Inflation

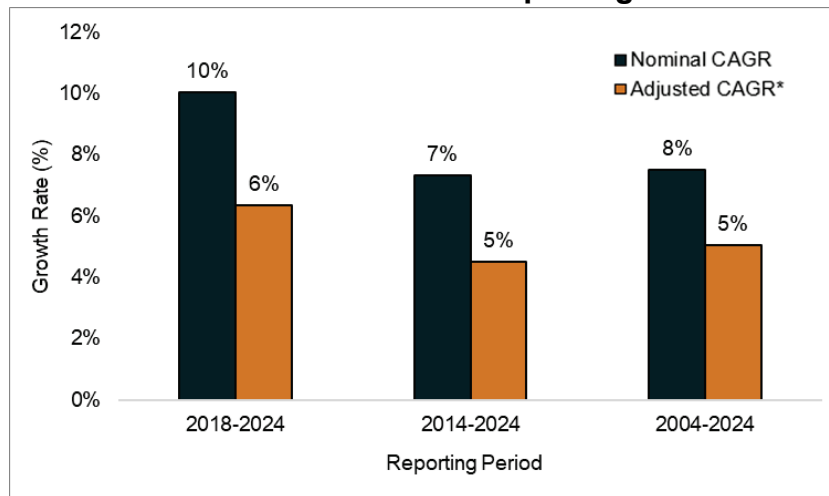
- Revenue grew 103% since 2014 and 78% since 2018. However, when adjusting for inflation, revenue growth was less significant at 56% since 2014 and 45% since 2018.
- Collectively, ESCOs project annual revenue of \$15.0 billion in 2027.



ESCO Revenue and Adjusted Growth Rate

- We also calculated the nominal and adjusted compound annual growth rate (CAGR) for three reporting periods.
 - The recent reporting period (2018-2024) shows a faster growth rate (CAGR), both nominal and adjusted, compared to the other two reporting periods (2014-2024 and 2004-2024).
 - The adjusted CAGR for the recent reporting period (2018-2024) shows inflation had a larger impact (4% difference) than previous reporting periods (2% between 2014-2024, and 3% between 2018-2024).

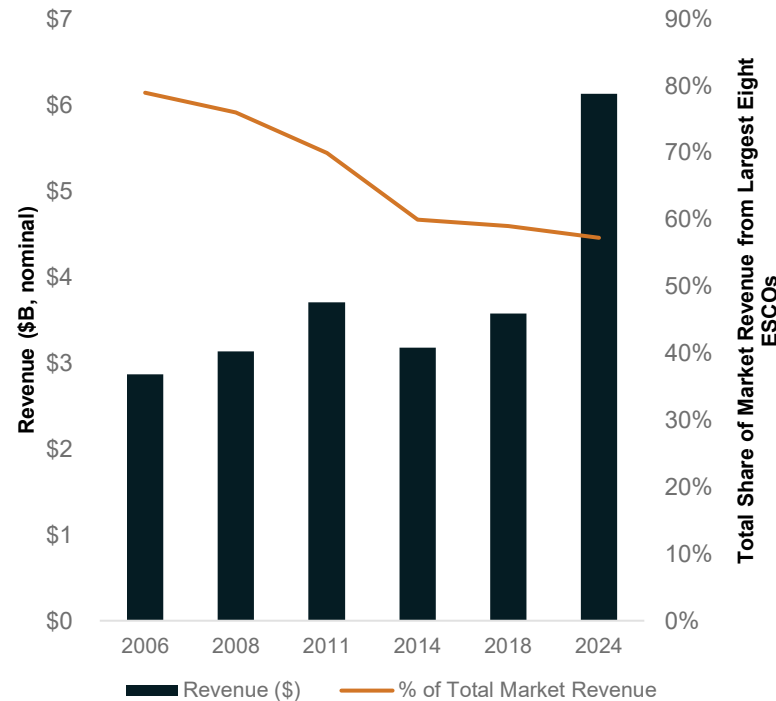
CAGR Calculation Across Reporting Periods



Share of Revenue for the Largest Eight ESCOs Over Time

- The “top eight ESCOs” refers to the eight largest companies by 2024 revenue. We tracked market share of the top eight ESCO revenues during each reporting period since 2006.
- The total revenue of the top eight ESCOs (in terms of total revenue and market share) grew by 78% since 2018 and by 114% since 2006.
- The share of total market revenue captured by the top eight ESCOs declined by 22% between 2006 and 2024.

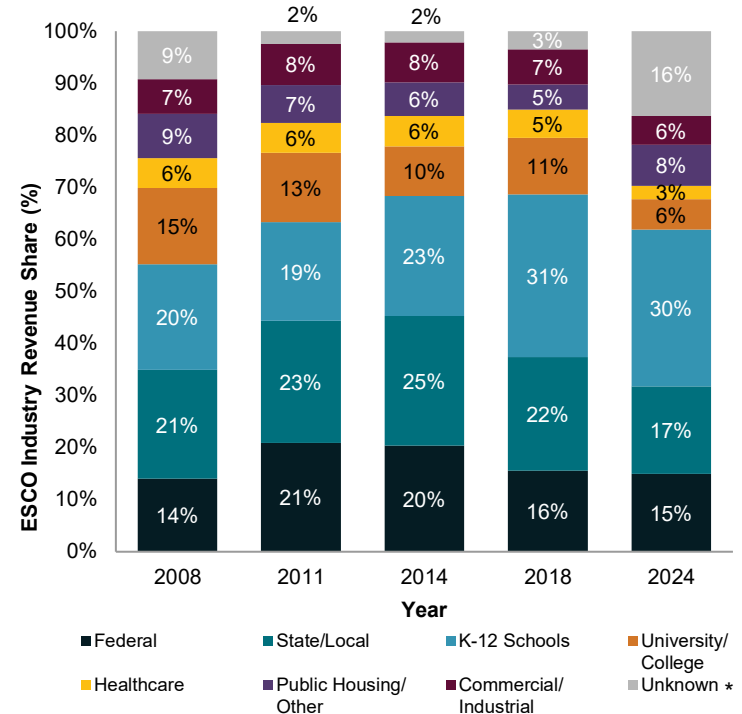
Year	Share of Total Market Revenue (%)	Total Revenue (\$B)
2006	79%	\$2.87
2008	76%	\$3.14
2011	70%	\$3.71
2014	60%	\$3.18
2018	59%	\$3.57
2024	57%	\$6.13



Revenue by Market Share Over Time

- The largest shares of revenue over the last 10 years were generated in the state/local (17-25%) and K-12 schools (23-30%) market segments.
- Overall, public and institutional customers continued to make up the majority of ESCO industry revenue in 2024 (78%).
- Public housing/other grew in terms of share of revenue between 2018 and 2024.

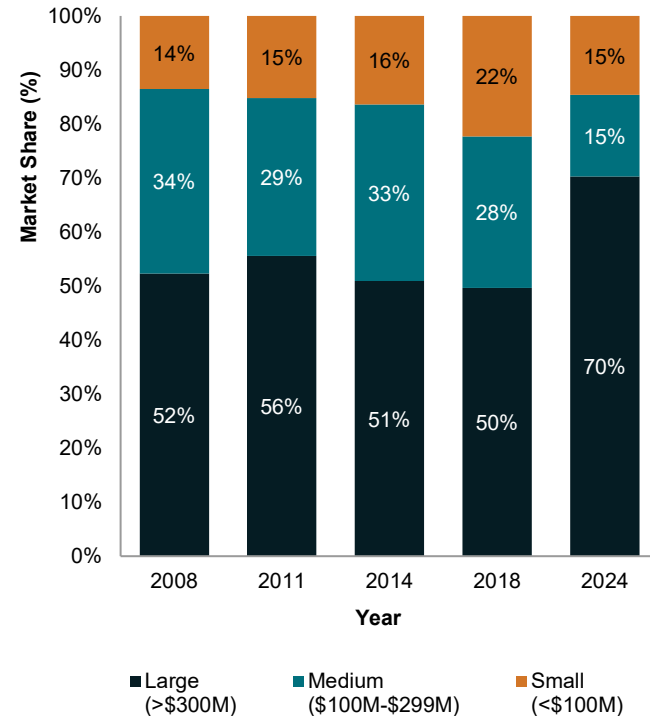
Market Segment	Share of Total Revenue (%)	Total 2024 Revenue (\$B)
Federal	15%	\$1.6
State/Local	17%	\$1.8
K-12 Schools	30%	\$3.2
University/College	6%	\$0.6
Healthcare	3%	\$0.3
Public Housing/Other	8%	\$0.8
Commercial/Industrial	6%	\$0.6
Unknown	16%	\$1.7
Total	100%	\$10.7



Revenue Share Trends by ESCO Size (2008-2024)

- We break up the ESCOs by revenue size across three categories [large (>\$300M), medium (\$100M-\$299M) and small (<\$100M)] and compare these three groups.
- Large-sized ESCOs—a group larger than the top eight—saw an increase of 20% in total share of market revenues in 2024 compared to 2018 (from 50% to 70%). However, this share is less significant when adjusting for inflation (see next slide).
- There was a significant decline in the share of revenue captured by medium- and small-sized ESCOs between 2018 and 2024.

ESCO Size	Total Revenue (\$B)				
	2008	2011	2014	2018	2024
Small	\$0.56	\$0.80	\$0.86	\$1.34	\$1.56
Medium	\$1.42	\$1.53	\$1.72	\$1.69	\$1.61
Large	\$2.17	\$2.93	\$2.69	\$2.99	\$7.52
Total:	\$4.15	\$5.26	\$5.28	\$6.02	\$10.69
Total sample (n=)	38	45	47	71	69

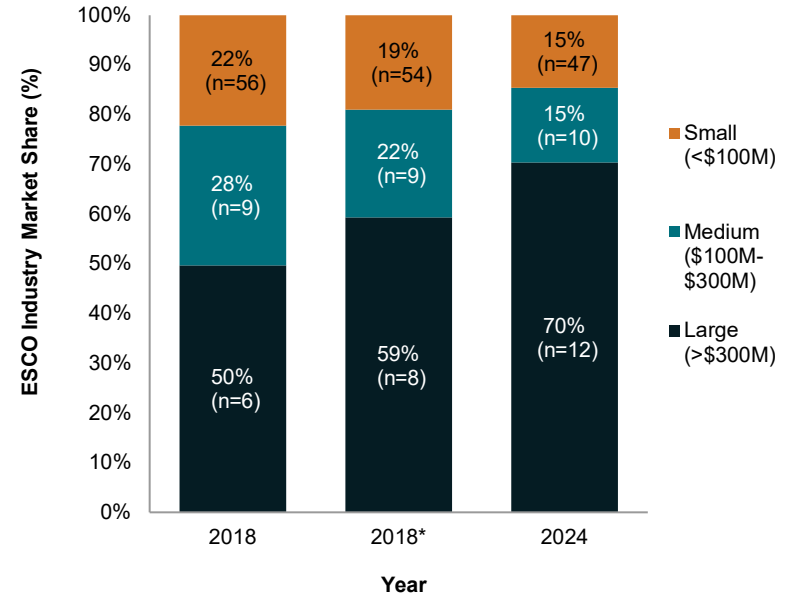


Adjusted Revenue Share Trends by ESCO (2018 vs 2024)

- The table below compares 2018 nominal, 2018 adjusted,* and 2024 revenue by ESCO size, which demonstrates the impact of inflation. The adjusted column shows that ESCO sizes were also determined using their 2018 adjusted revenue.
- After adjusting to 2024\$, two small-sized ESCOs in 2018 were adjusted to medium-sized and two medium-sized were adjusted to large-sized.
- After adjustment, the nominal and real market share for 2018 saw a slight increase in market share for large-sized ESCOs (9%) and slight decrease for both medium (-6%) and small-sized ESCOs (-3%).

ESCO Size	Total Revenue (\$B)		
	2018 (Nominal)	2018 (Adjusted)*	2024
Small	\$1.34	\$1.41	\$1.56
Medium	\$1.69	\$1.59	\$1.61
Large	\$2.99	\$4.38	\$7.52
Total:	\$6.02	\$7.38	\$6.02
Total sample (n=)	71	71	69

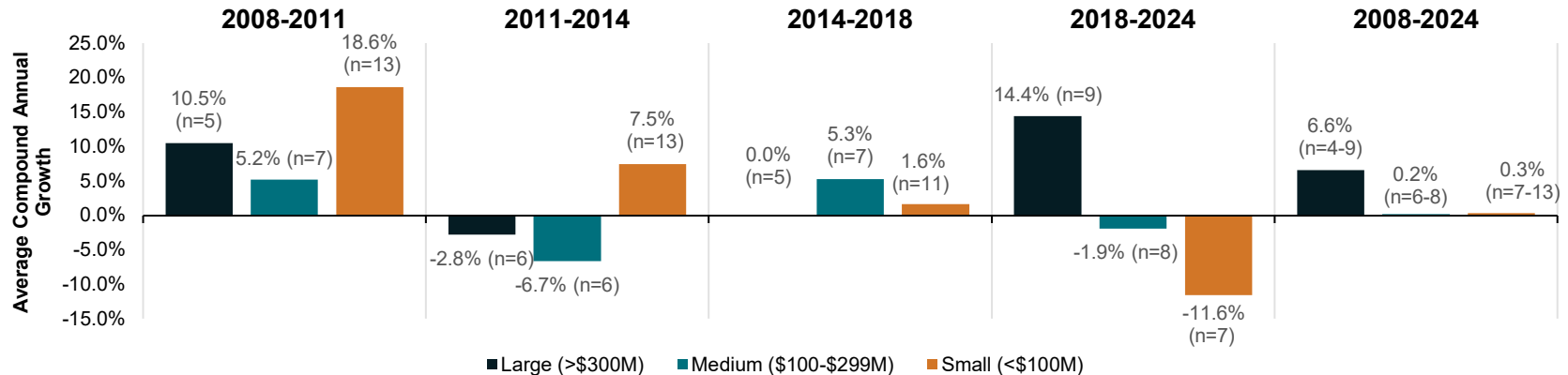
Revenue Share Trends by ESCO Size
(2018-2024)



*2018 revenue was adjusted to 2024\$ using the GDP Deflator. For the adjusted column, ESCO sizes were also determined using their 2018 adjusted revenue.

Growth Trends by ESCO Size

- Analysis of ESCO growth trends by company size is critical for determining who is capturing growth and any contractions in the market over time.
- There has been significant change in the 2018-2024 period compared to the 2014-2018 period (and even 2011-2014) in terms of total shifts of revenue across ESCO size.
- The majority of new revenue is captured by large-sized ESCOs (as depicted in the previous slide), but the total share of revenues captured by large-sized ESCOs grew by over 14% in the 2018-2024 period compared to the previous period.
- From 2018-2024, small-sized ESCOs lost significant market share (nearly 12%) and medium-sized ESCOs lost ~2% market share.
- However, many factors could drive these growth trends as discussed on the next slide.

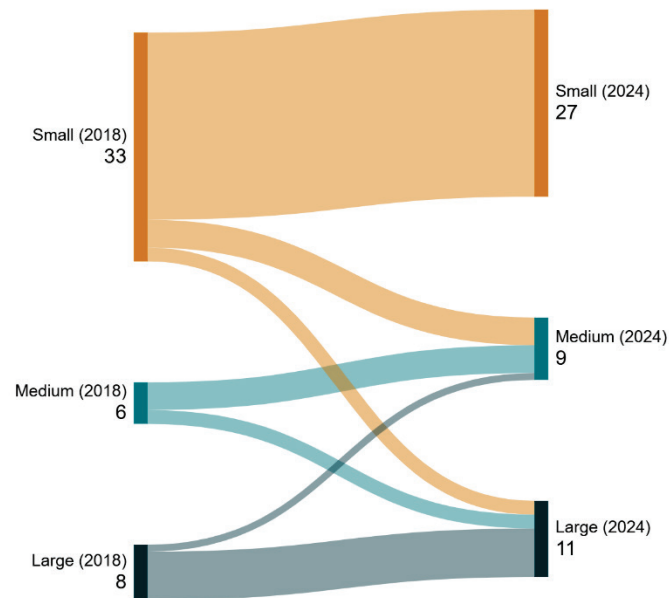


*The categorization of ESCOs in the 2018-2024 reporting period is based on 2024 revenue. If ESCOs participated in four out of five of the last ESCO Market Survey reports, they were included in the sample for the analysis on this slide. In past analyses, ESCOs that participated in three out of four ESCO Market Surveys were included.

Analysis of ESCO Size Changes Between Reporting Periods

- We compared the revenue from 47 ESCOs captured in both the 2018 and 2024 studies to understand shifts of ESCOs between the three categories of small, medium and large.
- We found that these categories were not stagnant, and some companies moved between categories during the periods of analysis.
 - This could be due to M&A, growing revenue, larger ESCOs outcompeting smaller ESCOs, or other factors.
 - Some increase in market share by large-sized ESCOs may be due to a fixed-classification approach that is kept consistent across reporting periods.
- See the Technical Appendix (TA03) for a more detailed analysis of changing ESCO size trends between 2018 and 2024 to adjust for inflation.

Sankey Chart of ESCO Size Change (2018 - 2024)

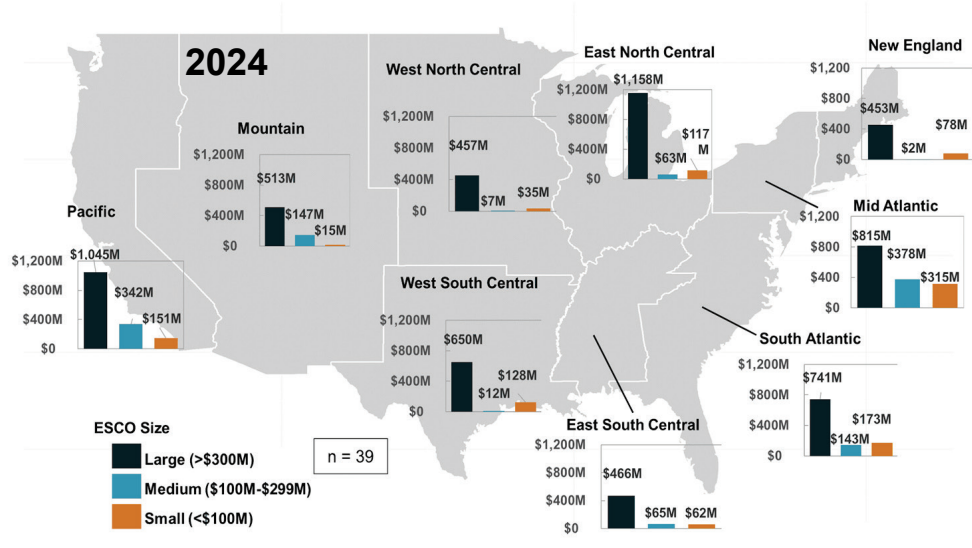
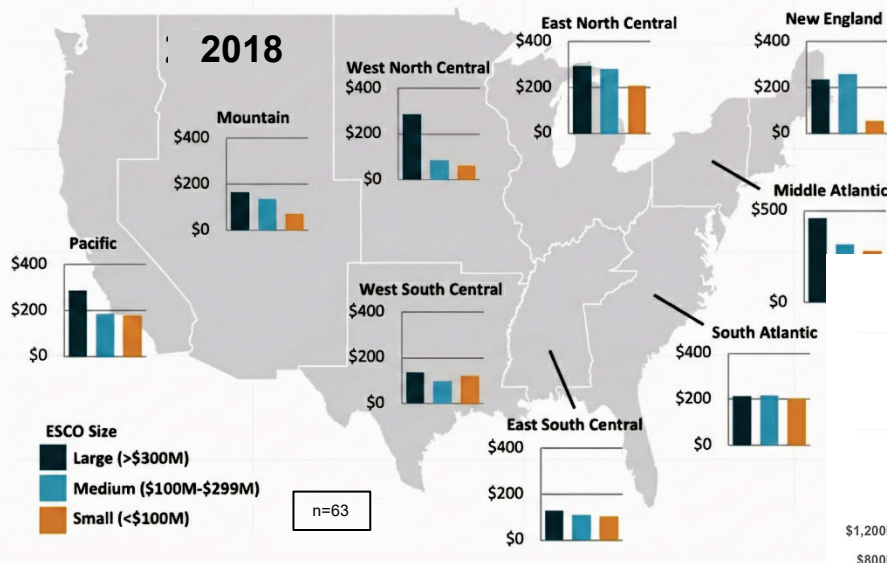


Key Findings: Revenue by Region

				Large (>\$300M)	Medium (\$100M-\$299M)	Small (<\$100M)	
U.S. Census Sub-region	States	Total Revenue (\$M) (2024)	Revenue per capita (\$/person) (2024)	Large ESCOs Revenue (\$M)	Medium ESCOs Revenue (\$M)	Small ESCOs Revenue (\$M)	Region Revenue % (2024)**
New England	CT, MA, ME, NH, RI, VT	\$533	\$35	\$453	\$2	\$78	6%
Mid-Atlantic	CT, PA, NJ, NY	\$1,507	\$36	\$815	\$378	\$315	18%
South Atlantic	DE, DC, GA, FL, MD, NC, SC, VA, WV	\$1,057	\$15	\$741	\$143	\$173	12%
East South Central	AL, KY, MS, TN	\$593	\$30	\$466	\$65	\$62	7%
West South Central	AR, LA, OK, TX	\$791	\$18	\$650	\$12	\$128	9%
East North Central	IL, IN, MI, OH, WI	\$1,338	\$28	\$1,158	\$63	\$117	16%
West North Central	IA, KS, MN, MO, ND, NE, SD	\$498	\$23	\$457	\$7	\$35	6%
Mountain	AZ, CO, ID, MT, NV, NM, UT, WY	\$675	\$26	\$513	\$147	\$15	8%
Pacific	AK, CA, HI, OR, WA	\$1,538	\$29	\$1,045	\$342	\$151	18%
Unknown*		\$2,161		\$1,220	\$450	\$491	
Total – All Regions		\$10,690		\$7,517	\$1,609	\$1,564	



Comparing 2018 & 2024 Revenue* by U.S. Census Region (1)



*Regional revenue is reported in \$M (nominal) for both 2018 and 2024. Revenue is not adjusted for population in these census region maps.



Comparing 2018 & 2024 Revenue by U.S. Census Region (2)

- The total revenue share across regions was fairly static between 2018 and 2024, as depicted in the table on the prior slide. However, the share of regional revenue captured by different sized ESCOs is more visible.
 - There is a trend in many regions whereby the large ESCOs capture a larger market share from small- or medium-sized ESCOs, e.g. in the West South Central, West North Central, New England, East South Central, and South Atlantic regions.
 - This finding matches the analysis in the previous slides on growth trends, which shows that small- and medium-sized ESCOs lost significant market share (-12% and -2% respectively) between 2018 and 2024, compared to a growth of 14% market share for large ESCOs.
 - For 2024, with a smaller sample size, only \$8.5B (80%) of the \$10.7B industry estimated is depicted on the map, while for 2018, \$5.2B of the \$6B industry revenue estimate is depicted.



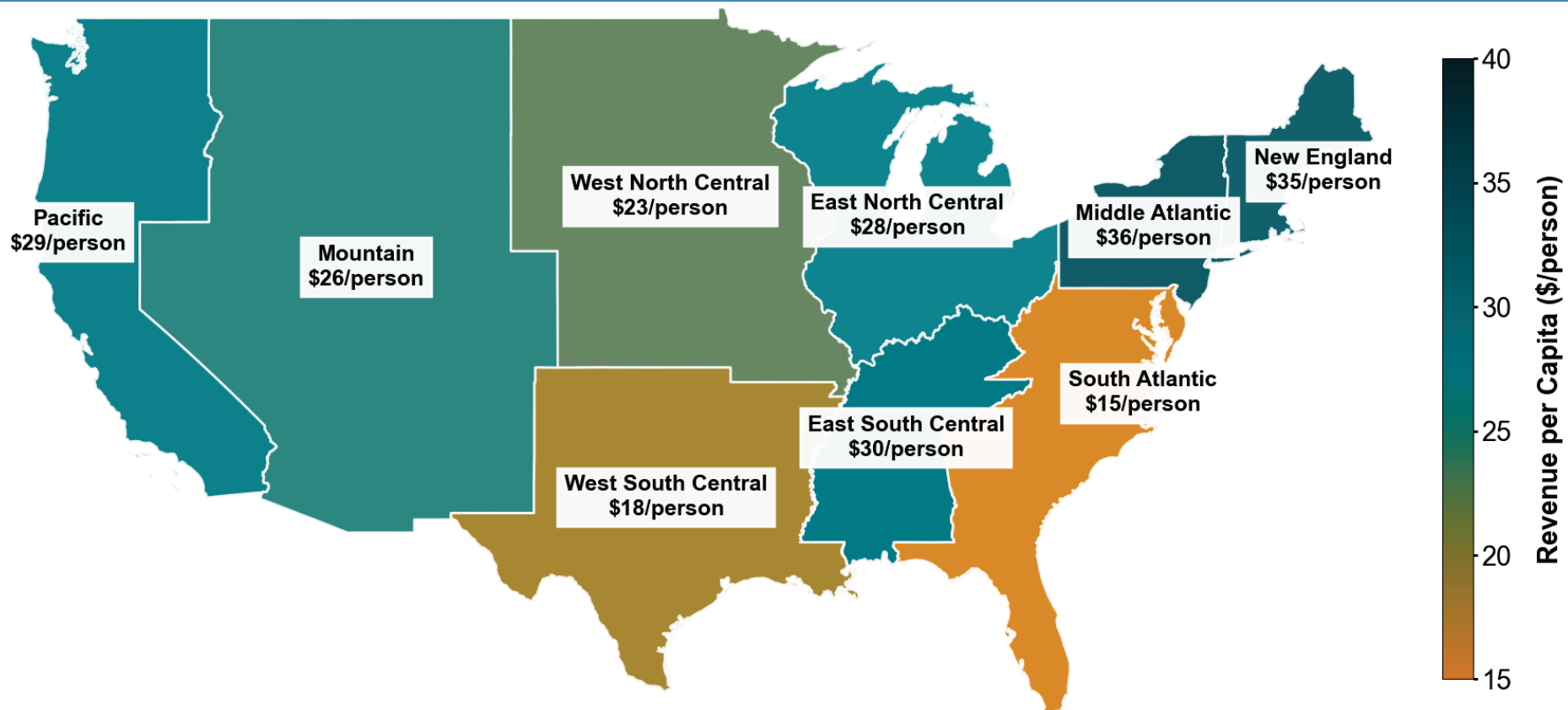
Revenue by U.S. Census Region Normalized for Population Density (2024)

- A regional analysis of revenue reveals that the Pacific census region generated the largest share of ESCO revenue (\$1.54B), while the smallest share of revenue was generated in the West North Central census region (\$0.50B).
- However, when adjusting revenue for population density in each region, the Mid-Atlantic and New England regions have the highest revenue on a per capita basis (\$36 and \$35 per capita, respectively), while the South Atlantic region had the smallest share of revenue on a per capita basis (\$15 per capita).

U.S. Census Sub-region	Total 2024 Revenue (\$B)	Total 2024 Revenue per Capita
New England	\$0.53	\$35
Mid-Atlantic	\$1.51	\$36
South Atlantic	\$1.06	\$15
East South Central	\$0.59	\$30
West South Central	\$0.79	\$18
East North Central	\$1.34	\$28
West North Central	\$0.50	\$23
Mountain	\$0.68	\$26
Pacific	\$1.54	\$29

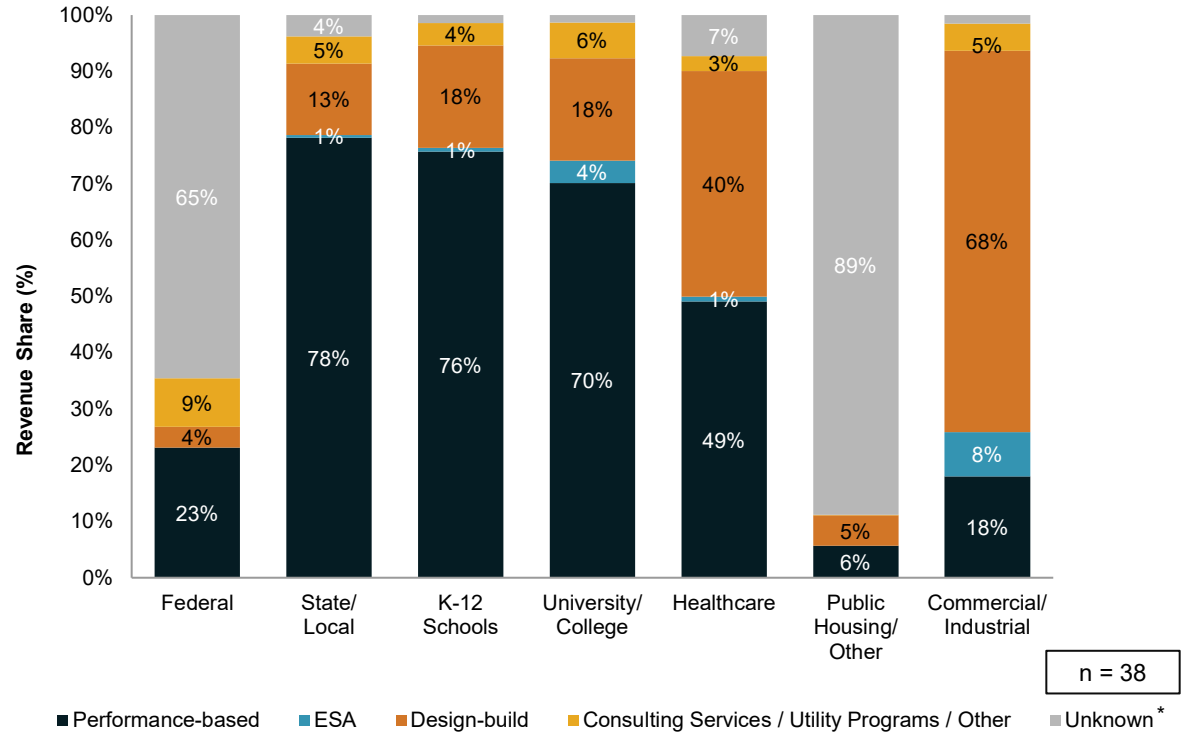


Revenue per Capita* by U.S. Census Region (2024)



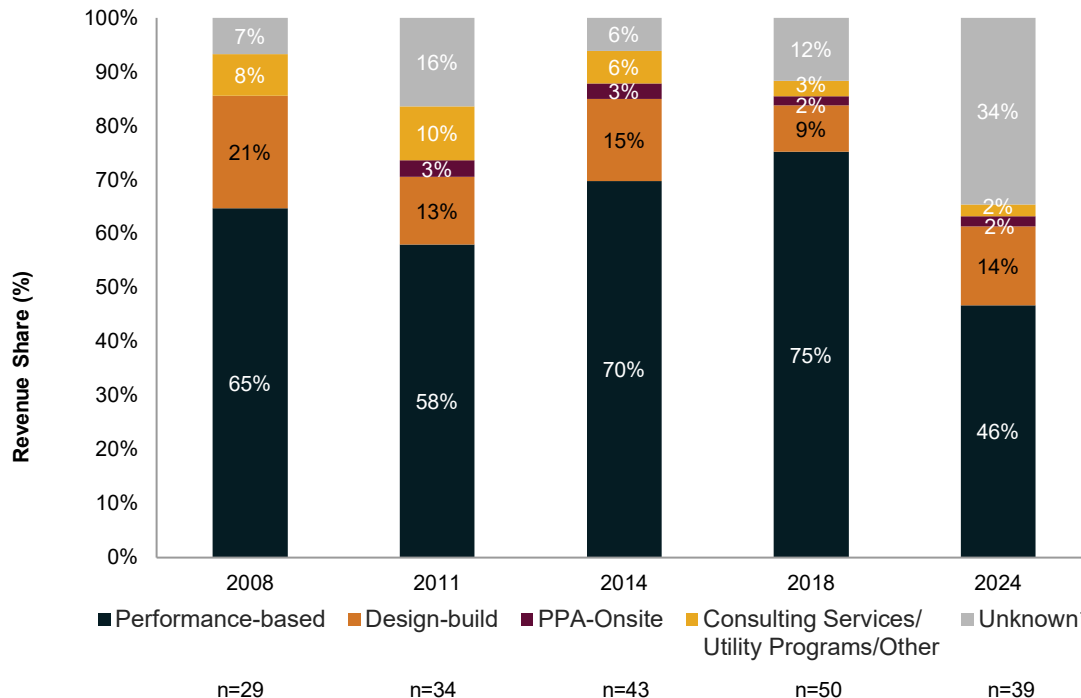
Revenue by Business Activity and Market Segment (2024)

- Performance-based contracting is the major vehicle for projects in the MUSH markets (K-12 schools, university/college, healthcare, and state/local government), as well as for federal projects.
- Design-build projects generated a significant share of revenue, particularly in the C&I market segments (68%).



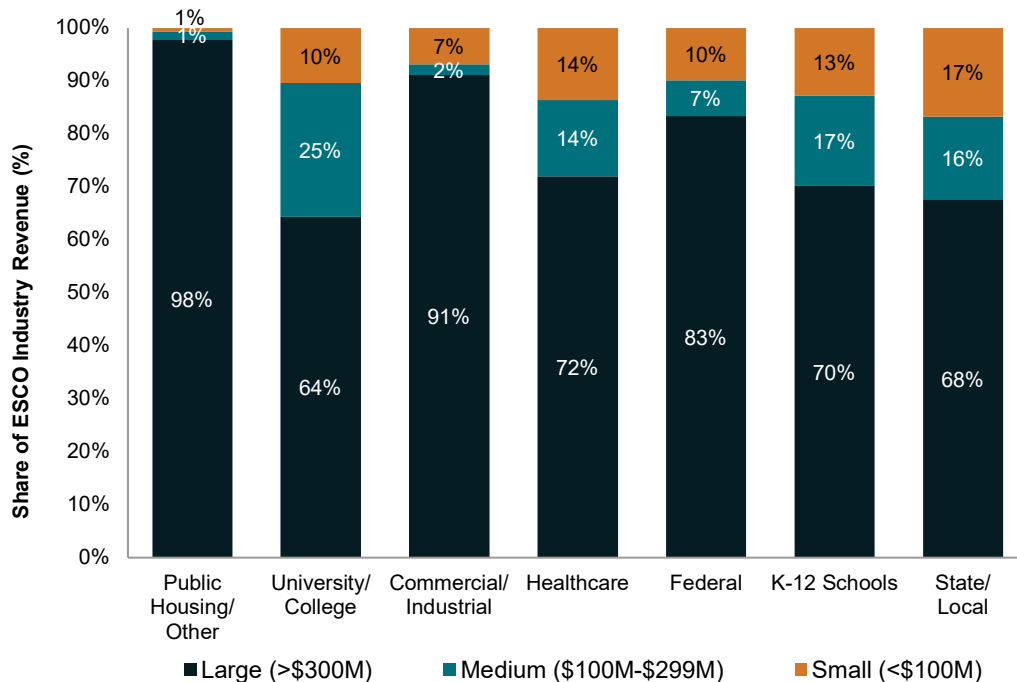
Revenue Trends by Business Activity (2008-2024)

- Performance-based contracting has made up the majority of ESCO business activity between 2008-2024.
- The second largest share of unknown business activity (34%) in 2024 is representative of the revenue estimates added through the Delphi process for non-respondents to this question.



Revenue by Market and ESCO Size (2024)

- Large-sized ESCOs dominated the total 2024 revenue across all market segments [and held the highest penetration levels in the public housing (98%) and C&I markets (91%)], capturing nearly all the revenue for these market segments.
- Medium-sized ESCOs captured 25% of the total revenue in the university/college market.
- Small- and medium-sized ESCOs each captured roughly equal shares of the healthcare, K-12 schools, and state/local market segments in 2024.



n = 39

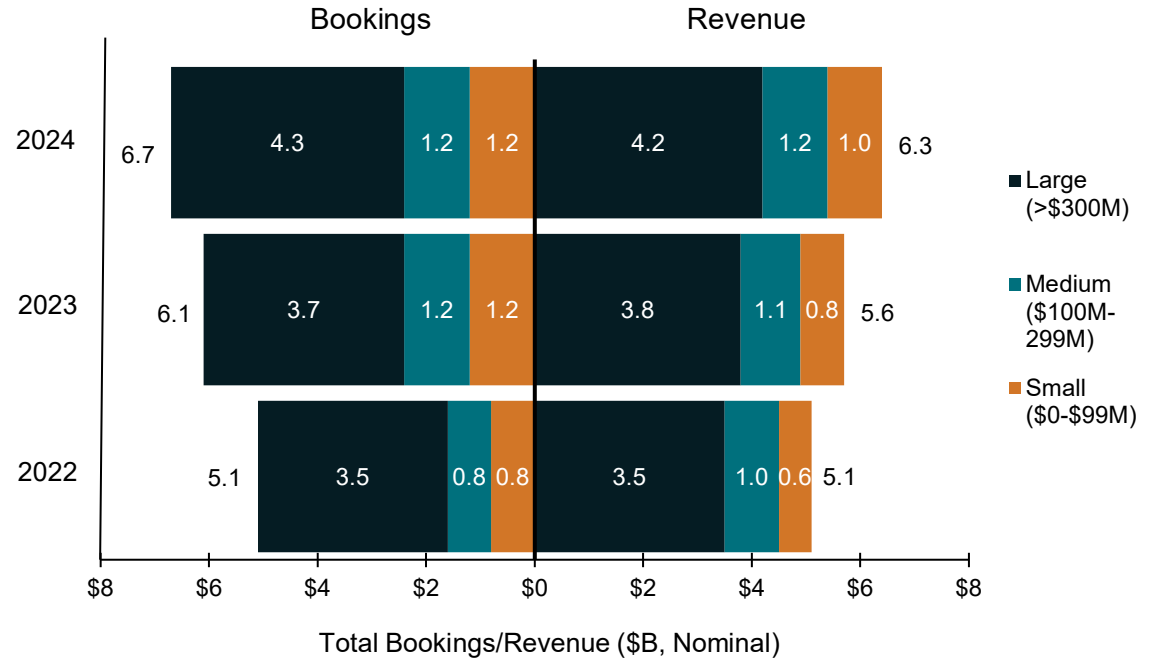


2022-2024 Bookings



Revenue vs Bookings by ESCO Size (2022-2024)

- We collected and analyzed data on bookings for 2022 -2024 by ESCO size.*
- Booking numbers in a particular year may not be realized as revenue in the same year. This can vary by project development timelines, regulatory approvals, and financing availability.
- Overall, bookings grew between 2022 and 2024, with the largest share of bookings captured by large-sized ESCOs.



*This is the first ESCO Market Survey report that collected and analyzed data on bookings.

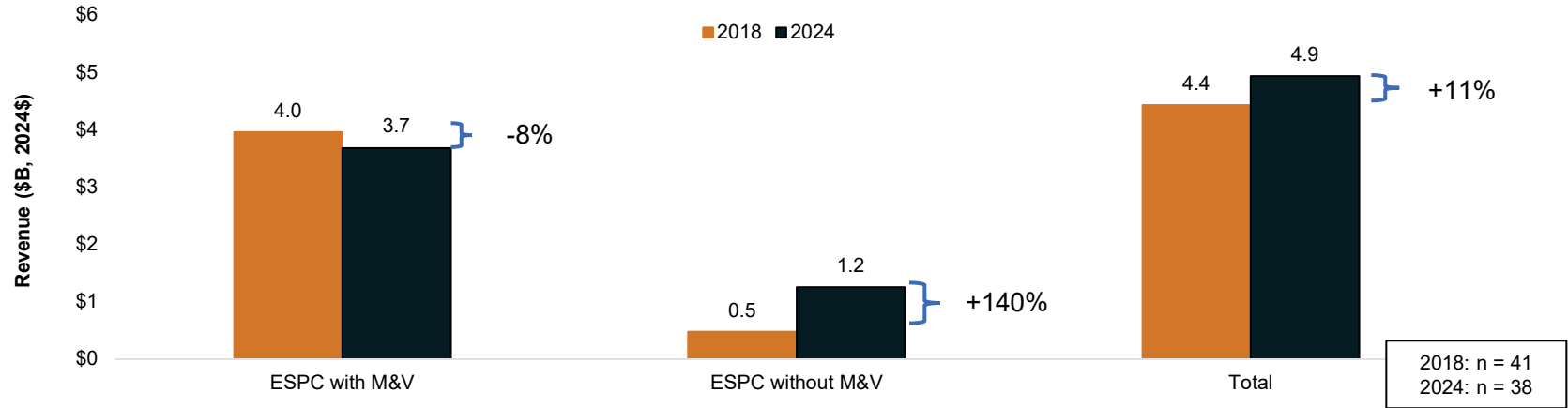
n = 35

Measurement & Verification (M&V)

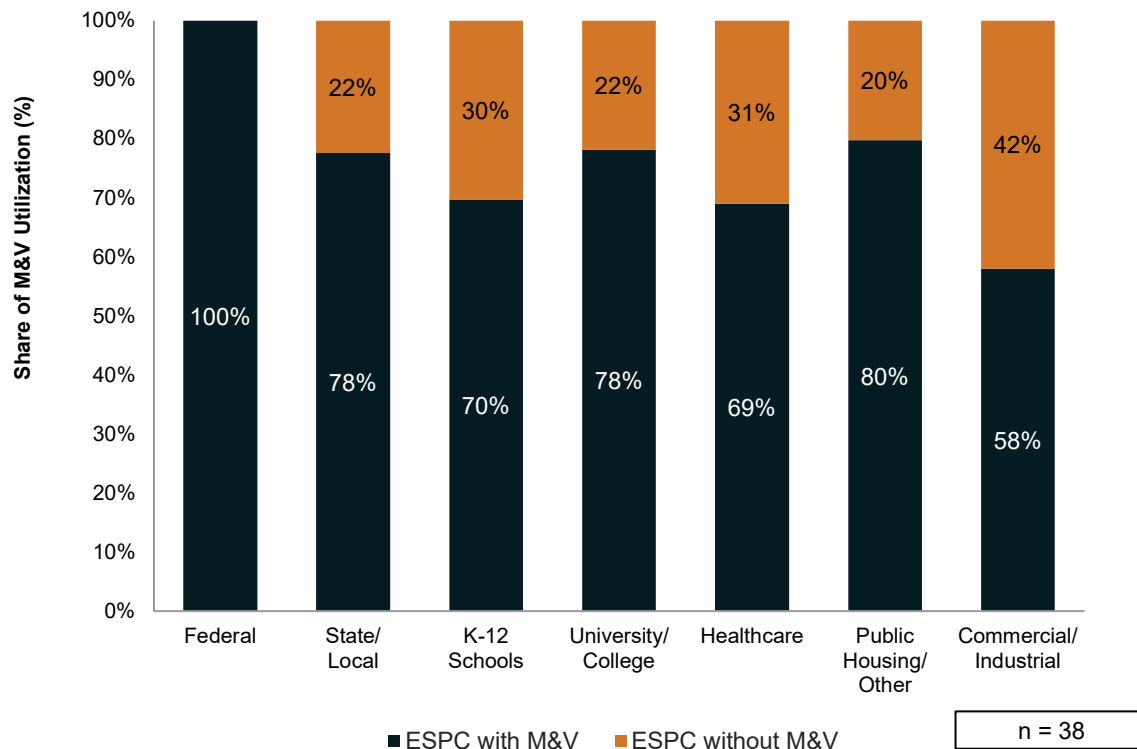


ESPC Revenue Trends with M&V Over Time

- There was a greater share of growth across ESPC projects without M&V contracts than in projects with M&V contracts included between 2018 and 2024.
- Nevertheless, the majority of revenue generated from ESPC projects in 2024 (76%) included M&V contracts (\$3.7B in 2024\$).



ESPC with M&V by Market Segment



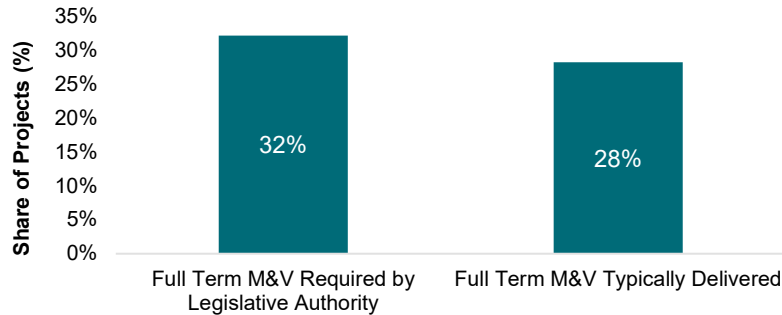
- All federal projects reportedly include M&V contracts (100%), which is expected due to government mandates.
- MUSH market projects had variable M&V utilization, which on average was 76% across the MUSH segments.
- 70% of K-12 schools projects included M&V compared to 78% of both state/local and university/college projects.
- Only 58% of C&I ESPC projects included M&V.



M&V Contract Terms for MUSH Market

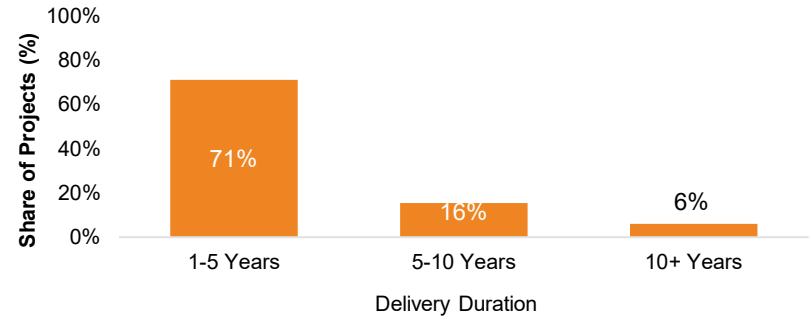
- On average, 32% of ESCOs report that the main driver of full-term M&V provided for MUSH market projects is due to legislative requirements or as required by other government mandates.
- Only 28% of ESCOs indicated that they typically deliver full-term M&V in their MUSH market projects.
- Across projects in the MUSH market with less than full-term M&V, the majority of ESCOs provided M&V for 1-5 years.

Average Share of ESCOs reporting* Full-Term M&V Delivered Across MUSH Projects



*These two responses are not mutually exclusive

Average Share of Partial Term MUSH Projects Across ESCOs

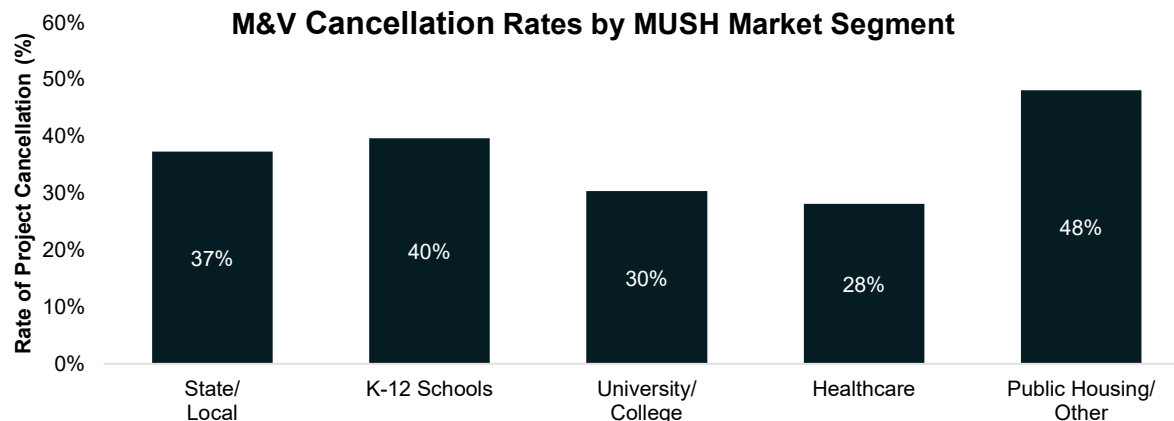


n = 33



Share of ESPC M&V Cancellation by MUSH Market Segment

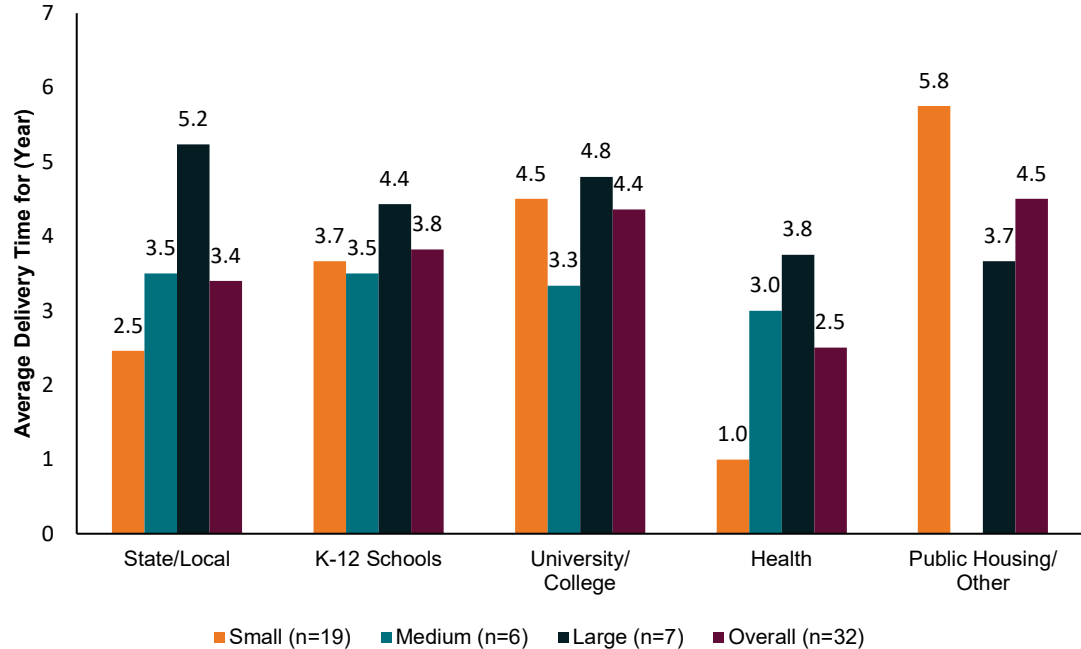
- Across all MUSH market segments*, ESCOs report that on average ~37% of customers cancel their M&V contracts before the term is completed.
- ESCOs reported that the highest rate of customer cancellations of M&V contracts are in the public housing/other (48%) and K-12 schools (40%) market segments.
- The lowest rate of cancellations reported was in the healthcare market segment (28%).
- M&V cancellation for the MUSH market may be due to customer satisfaction with ESPC project performance and proven savings within the first years of project performance; customers may not want to pay for M&V over the long-term if project guarantees are met.**



Delivery Timeline for Less Than Full-Term M&V

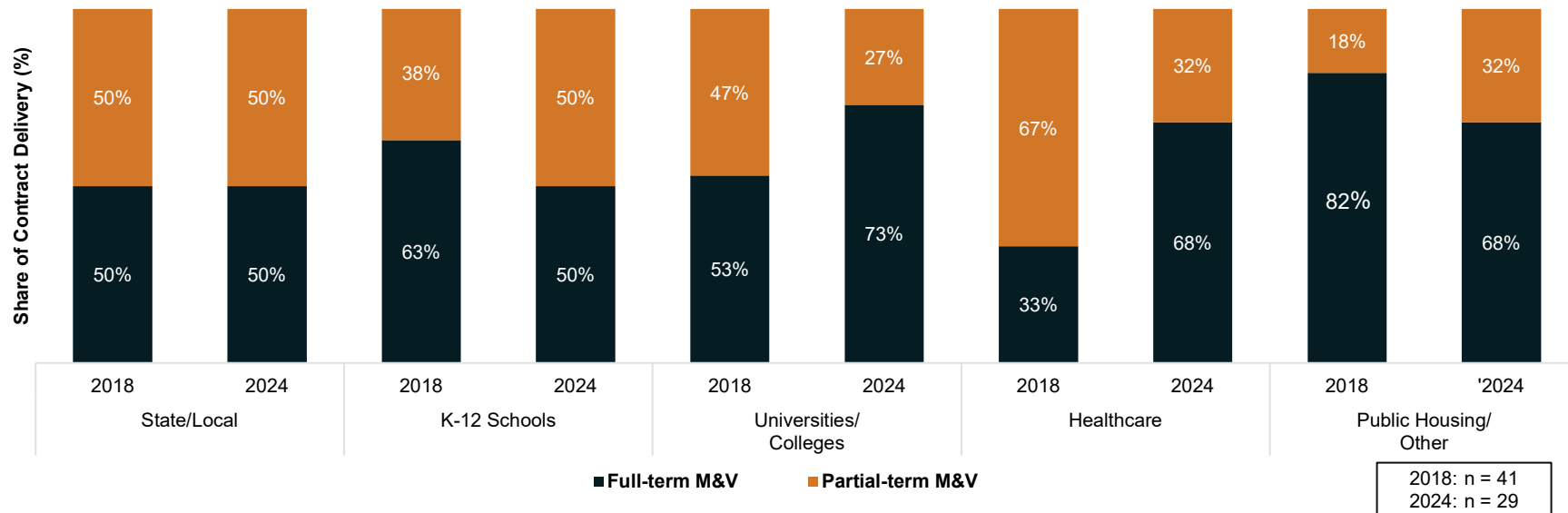
- In 2024, the less than full-term M&V contract timeline averaged 3.7 years across market segments.
- The longest M&V timelines were offered in the public housing (6+ years on average) and university/college (~4 years on average) market segments.
- Across all ESCOs, larger companies offered the longest timeline for M&V contracts (4 years on average across market segments).

Average Delivery Timeline for Less than Full Term M&V Projects (Year)



Share of Full-Term vs Partial-Term M&V by Market Segment

- We compared the length of M&V contracts across market segments between 2018 and 2024.
- Some markets moved towards partial term M&V (K-12 schools and public housing) in 2024, while other market segments moved towards full-term M&V such as healthcare and university/college.
- Overall between 2018 and 2024, the trends continued between reporting periods.



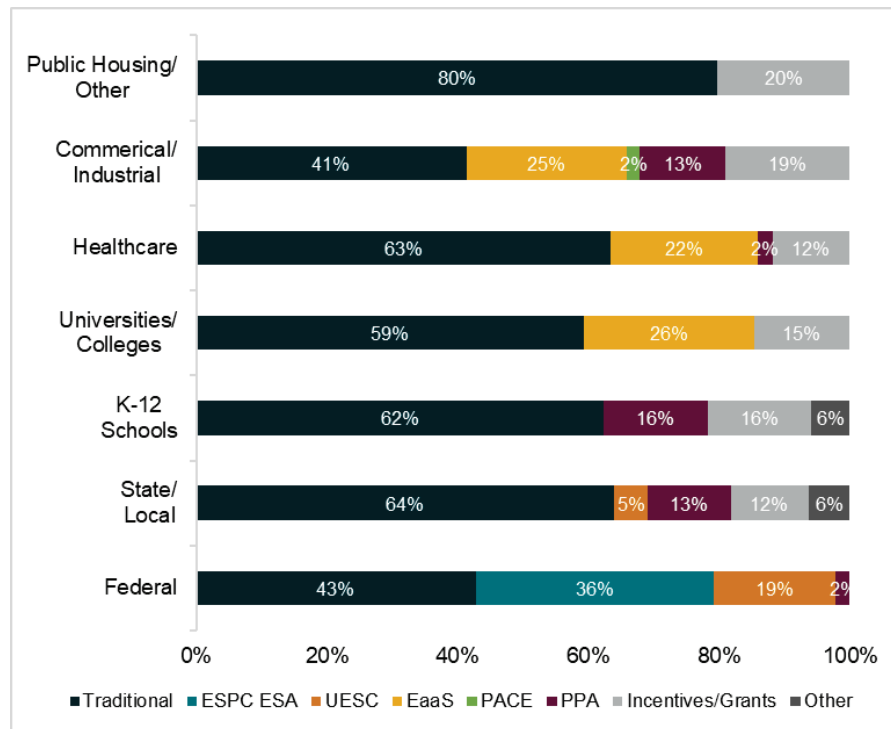
Financing & Incentives



Financing of ESPC by Market and Contract Type (1)

Definitions:

- **Traditional:** Traditional means (loan, lease, bond)
- **ESPC ESA:** Federal ESPC energy sales agreement (ESA) combines ESPC and power purchase agreements (PPA).
- **UESC:** Utility Energy Service Contract (UESC) is a contract between federal/state agency and the serving utility for energy retrofits and energy management services.
- **EaaS:** Energy/Efficiency-as-a-Service is a business model whereby customers pay for an energy service without making up-front capital investment and typically without owning the installed equipment. EaaS models usually take the form of a subscription for equipment owned by a service company or management of energy usage to deliver the desired energy service.*
- **PPA:** Power purchase agreement (PPA) in which a customer is paying for delivered energy.
- **PACE:** Property assessed clean energy finance (PACE) is a long-term loan option repaid through a special assessment on the property's annual tax bill that helps property owners pay for energy efficiency, water conservation, and renewable energy improvements.



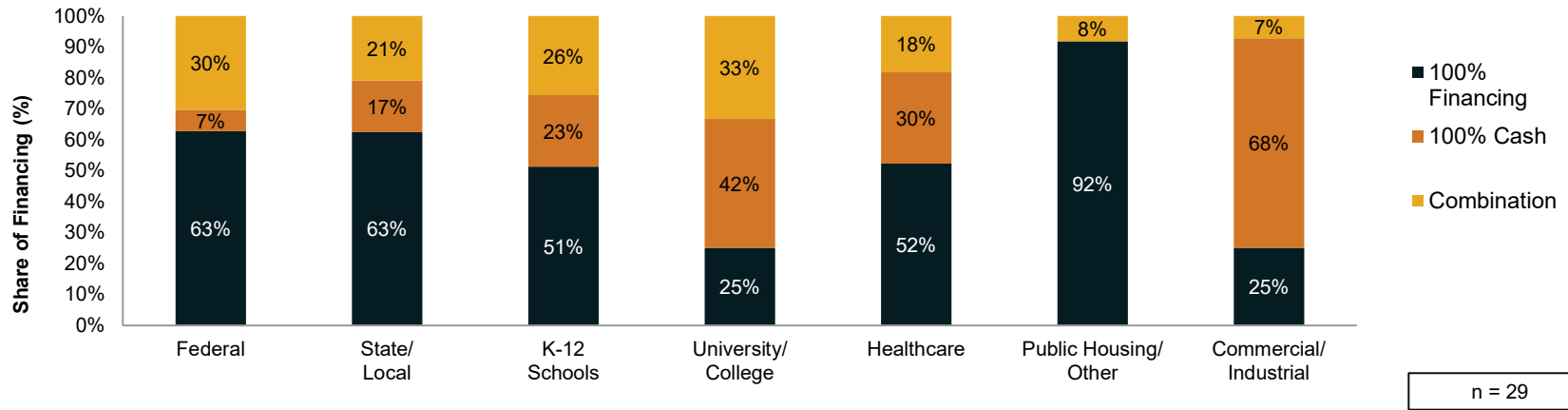
Financing of ESPC by Market and Contract Type (2)

- ESCOs reported their estimated share of utilization rates for financial vehicles across market segments, the average of their responses were then rescaled to a share of 100%.
- ESCOs reported that across all market segments, the most common form of financing utilized was traditional financing—such as a loan, lease, or bond—across 59% of projects on average.
 - In the public housing market segment, traditional financing was the only form of financing reported.
- ESCOs reported that EaaS was utilized a financing vehicle in 24% of projects on average in the C&I, healthcare, and university/college market segments. EaaS is an emerging financing vehicle that has grown in terms of utilization compared to past reporting periods.
- ESCOs reported that PPAs as vehicles were utilized in an estimated 9% share of projects on average across market segments.
- ESCOs reported that ESPC ESAs were utilized as a financing vehicle in 36% of their projects in the federal sector.*
- Incentives and grants were reportedly utilized on average in 16% of projects in all market segments except federal.



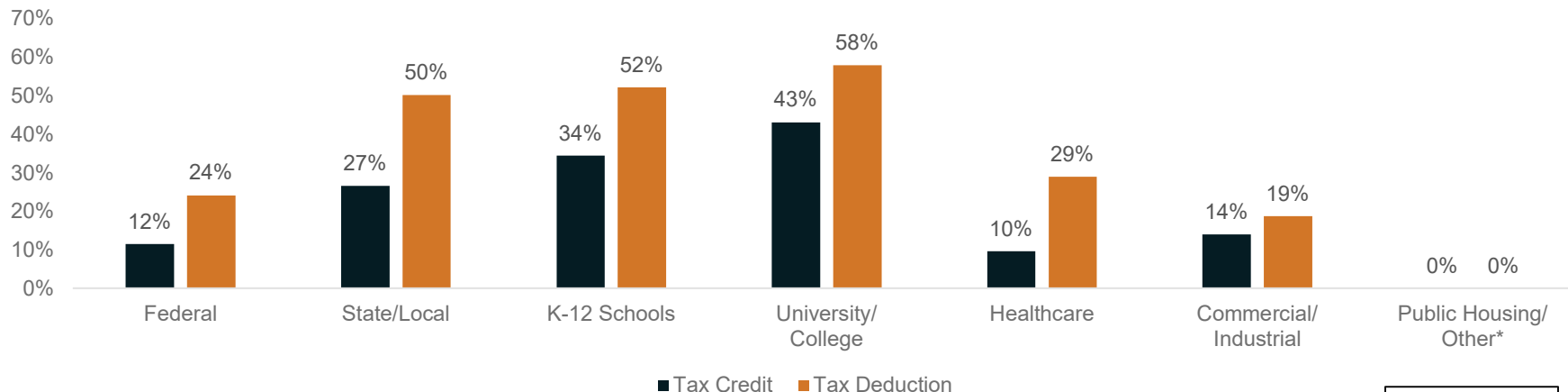
Share of Financing Type by Market Segment

- ESCOs reported that 100% financing was used most frequently across market segments in 53% of projects, compared to 100% cash* in 27% of projects.
- Combined cash and financing (hybrid) was only used in 20% of projects on average.
- Thus, for the period of 2022-2024, it was more common for ESPC project to offer either 100% financing or 100% cash (80% of projects), rather than a hybrid financing approach (20% of projects).



Percentage of Projects that Utilized Incentives or Credits

- Deductions were used in the majority of projects in the state/local government, K-12 schools, and university/college markets (54% on average).
- Credits were used less frequently (12% of projects on average) in the federal, healthcare, and C&I segments.



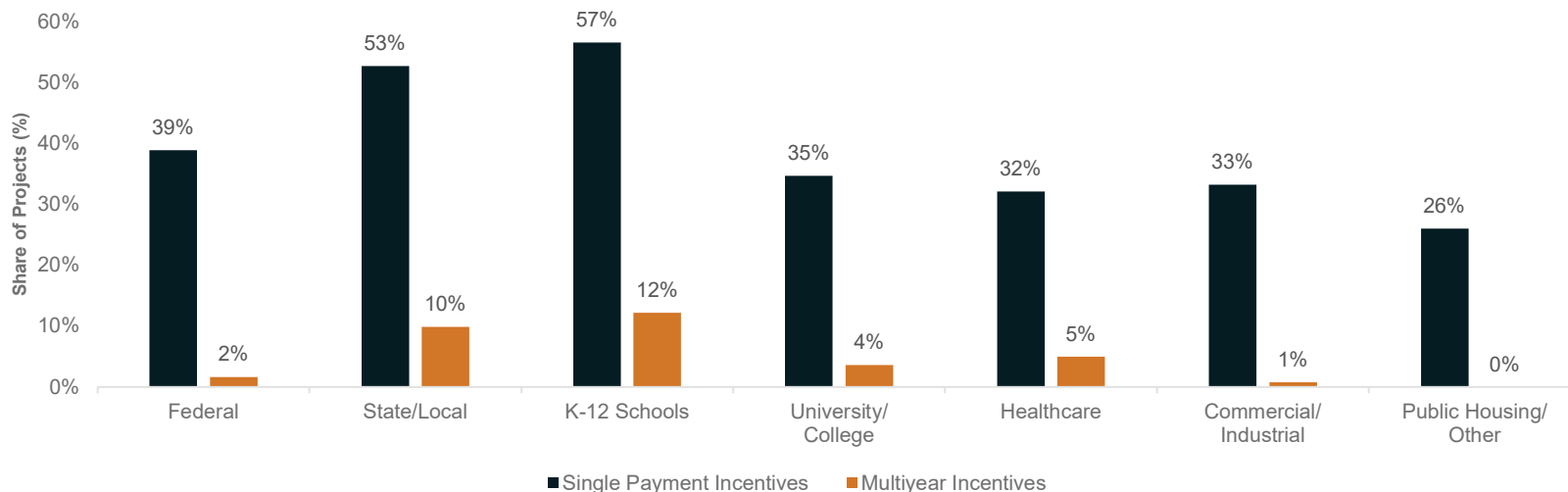
Definitions

- **Credits** include the Investment Tax Credit, Production Tax Credit, or other state or local tax credits, or direct pay.
- **Deductions** refers mainly to Section 179d, a federal tax deduction for buildings with qualifying energy efficiency upgrades.



Mean Percentage of Projects Utilizing Ratepayer-Funded Incentives (2022-2024)

- ESCOs reported that single-payment ratepayer-funded incentives were used most commonly across all market segments (41%, on average).
- Multi-year incentives were utilized in 5% of projects, on average, across market segments.



n = 29



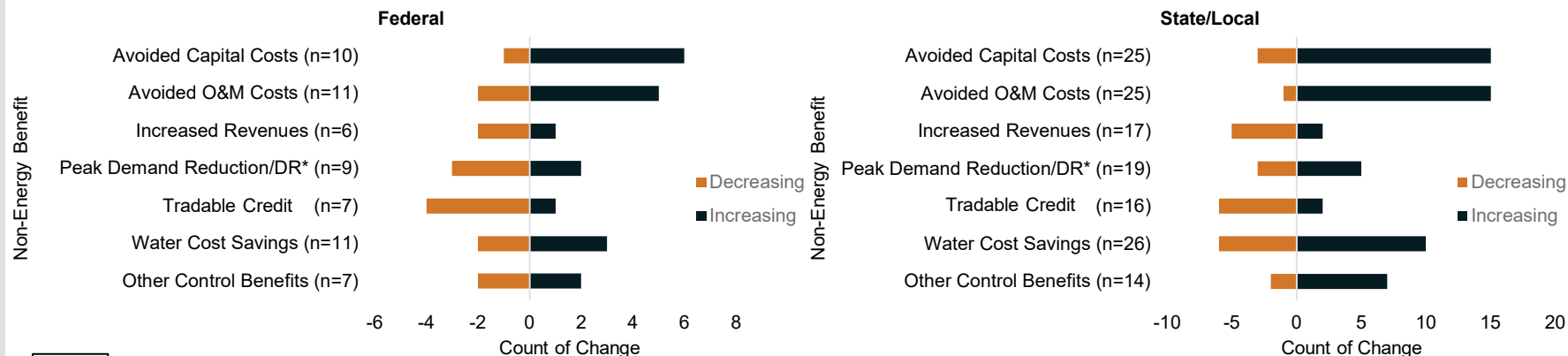
Drivers of ESPC Projects



Non-Energy Benefits as Drivers of ESPC (1)

- The figures depict all ESCO responses that reported a change (increase or decrease) in non-energy benefits driving ESPC projects; “no change” was not depicted.
- ESCOs reported no change for 57% of non-energy benefits, indicating the more than half of ESCOs reported that non-energy benefits were not major drivers of new ESPC projects.

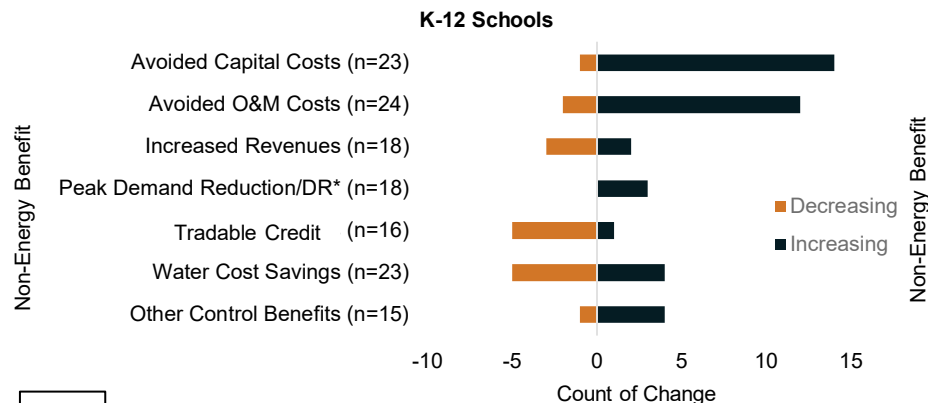
For 2022-2024, ESCOs reported that the main two drivers of ESPC projects were realizing avoided O&M and capital costs for all market segments except for public housing/other and C&I.



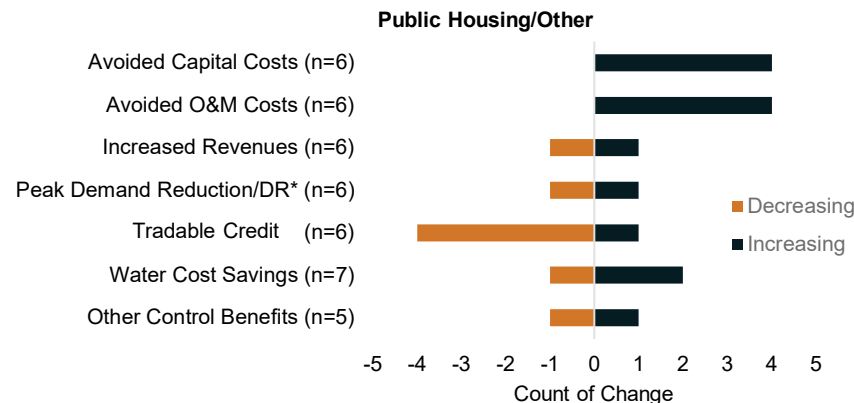
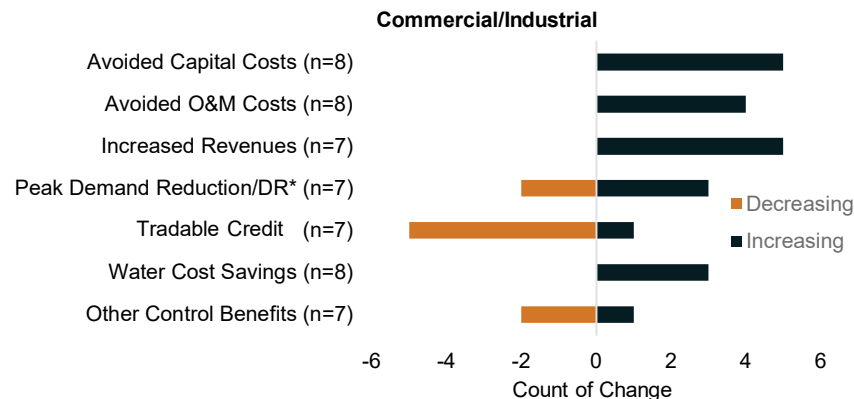
n=30

Non-Energy Benefits as Drivers of ESPC (2)

- ESCOs reported that the biggest non-energy benefit drivers of ESPC projects in the C&I market were increased revenues and realizing avoided capital costs and O&M costs.
- In the public housing market, ESCOs reported that avoided O&M costs, avoided capital costs, and water cost savings were increasing as non-energy benefit drivers of ESPC.

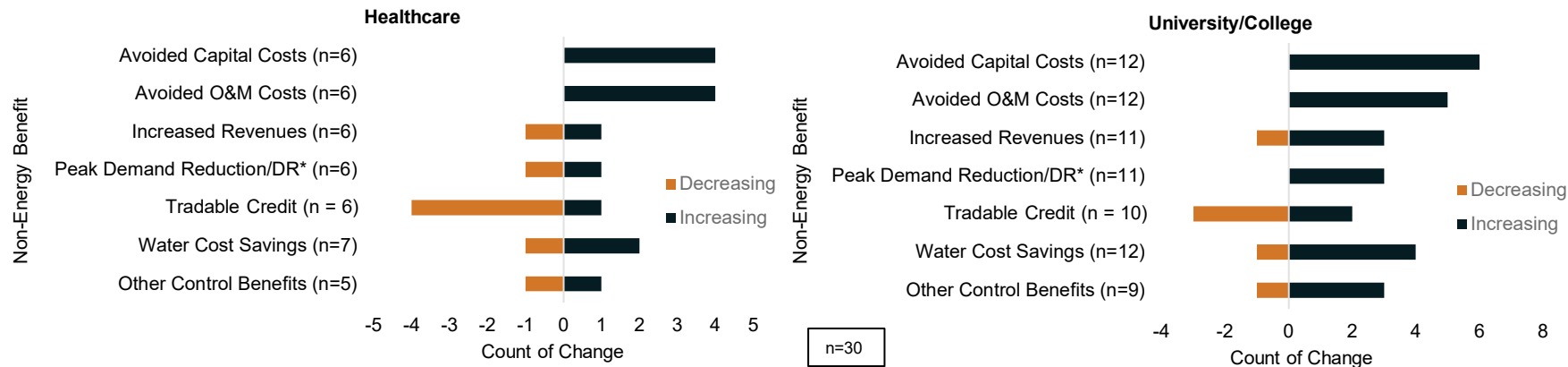


n=30



*DR= Demand Response
(n=X) denotes the total number of responses including responses that reported no change.

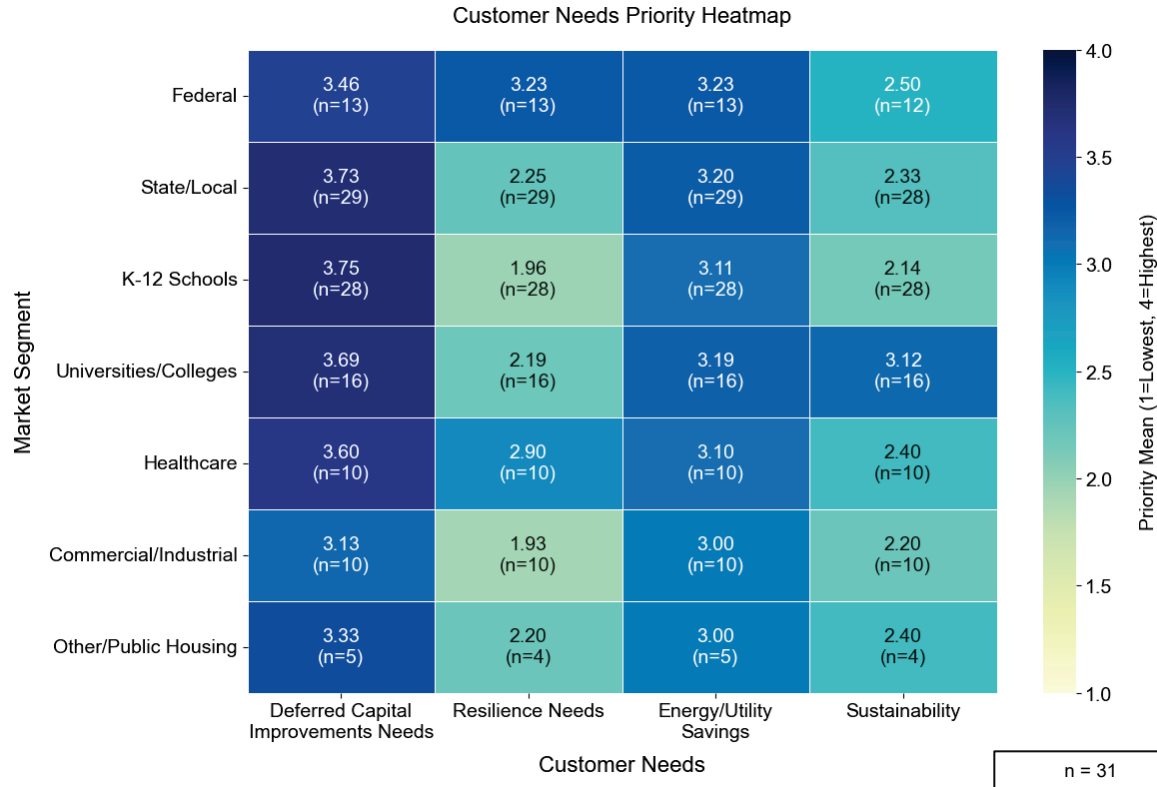
Non-Energy Benefits as Drivers of ESPC (3)



- ESCOs reported that the biggest drivers of ESPC projects in the healthcare and university/college market were also avoided O&M and capital costs. Water cost savings was also a major non-energy benefit driver of ESPC projects in the university/college market.
- ESCOs reported that tradable credits were declining as drivers of ESPC across several market segments, including federal, C&I, healthcare, university/college.

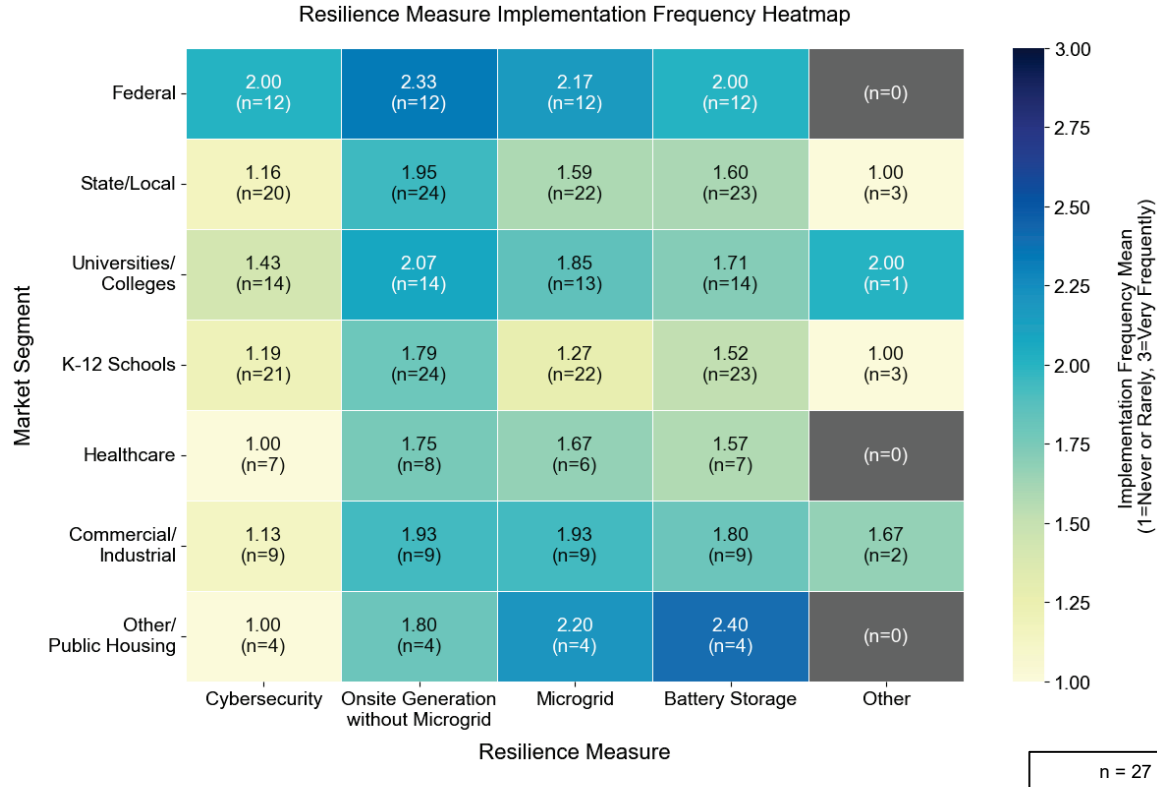


Customer Priorities as Drivers of ESPC



- The major customer priorities identified by ESCOs were deferred capital improvement needs across nearly all market segments, followed by energy/utility savings.

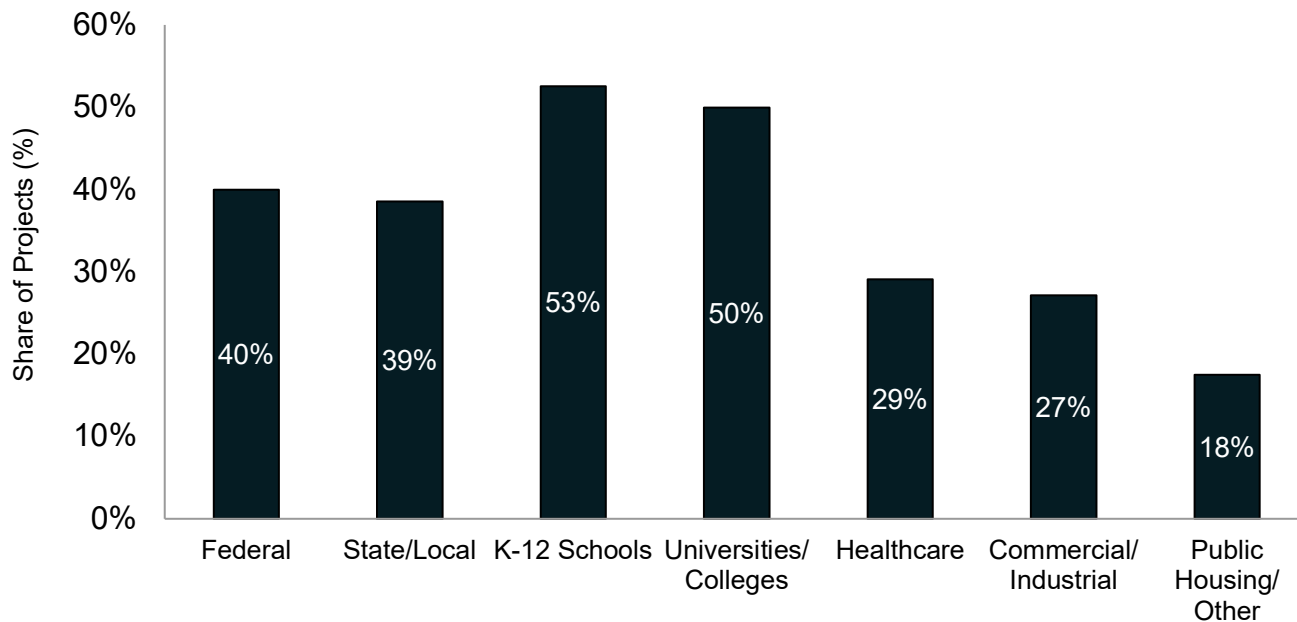
Implementation Frequency of Energy Security Measures



- The most frequently deployed energy security measures across projects were onsite generation without a microgrid, battery storage, and microgrids.
- In the federal market, onsite generation without a microgrid and cybersecurity measures were the most frequently implemented measures.



Mean Share of Projects from Repeat Customers (2022-2024)



n = 33

- Across all market segments, ESCOs reported a high share of repeat customers between 2022-2024.
- The most frequent repeat customers were in the K-12 schools and university/college market segments (over 50% of projects on average).

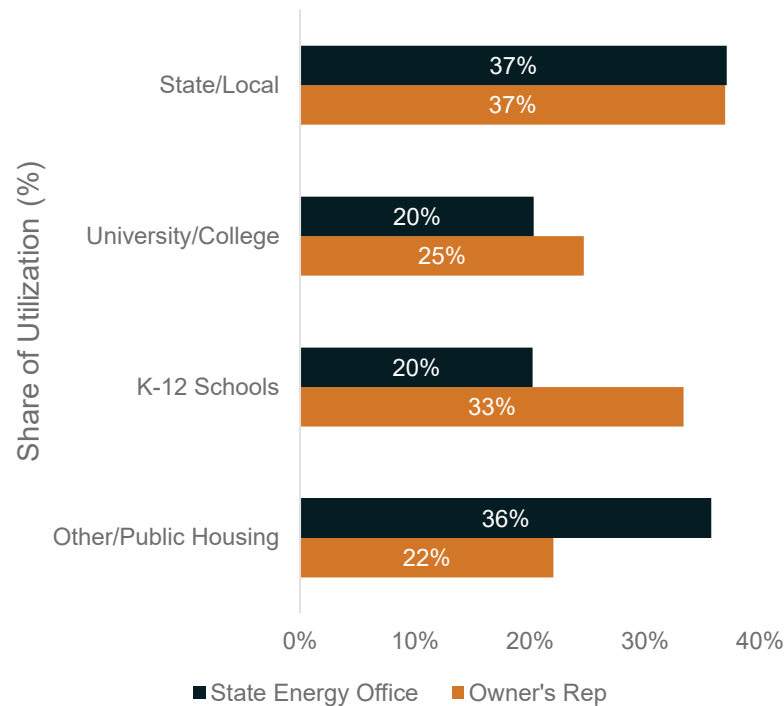


Technical Assistance



Share of Customers Using Technical Assistance by Scope

- ESCOs report that 37% of state/local government customers utilized technical assistance (TA) from a state energy office (SEO), and 37% utilized TA from an owner's representative (OR).
- ESCOs reported that public housing customers used SEOs 36% of the time, versus 22% that use ORs.
- K-12 schools and university/college customers reportedly utilized ORs more frequently (20% of the time on average), while state/local government customers utilized SEOs and ORs equally.

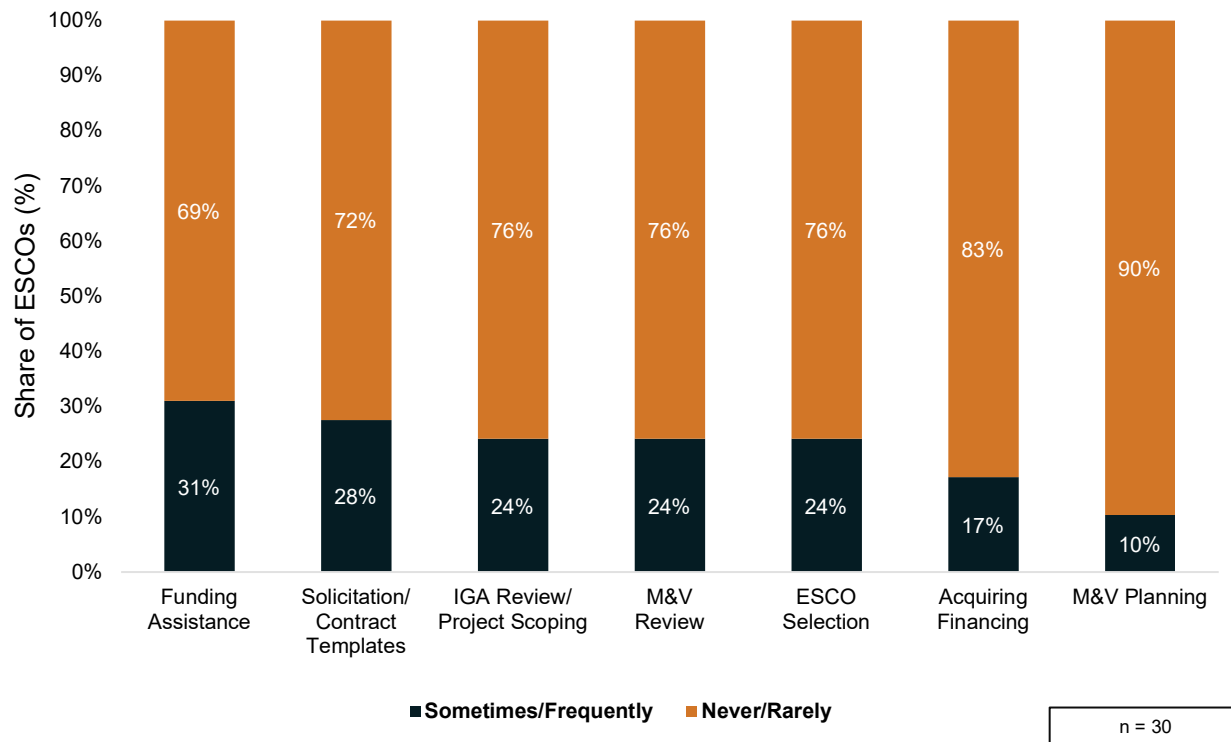


n = 30



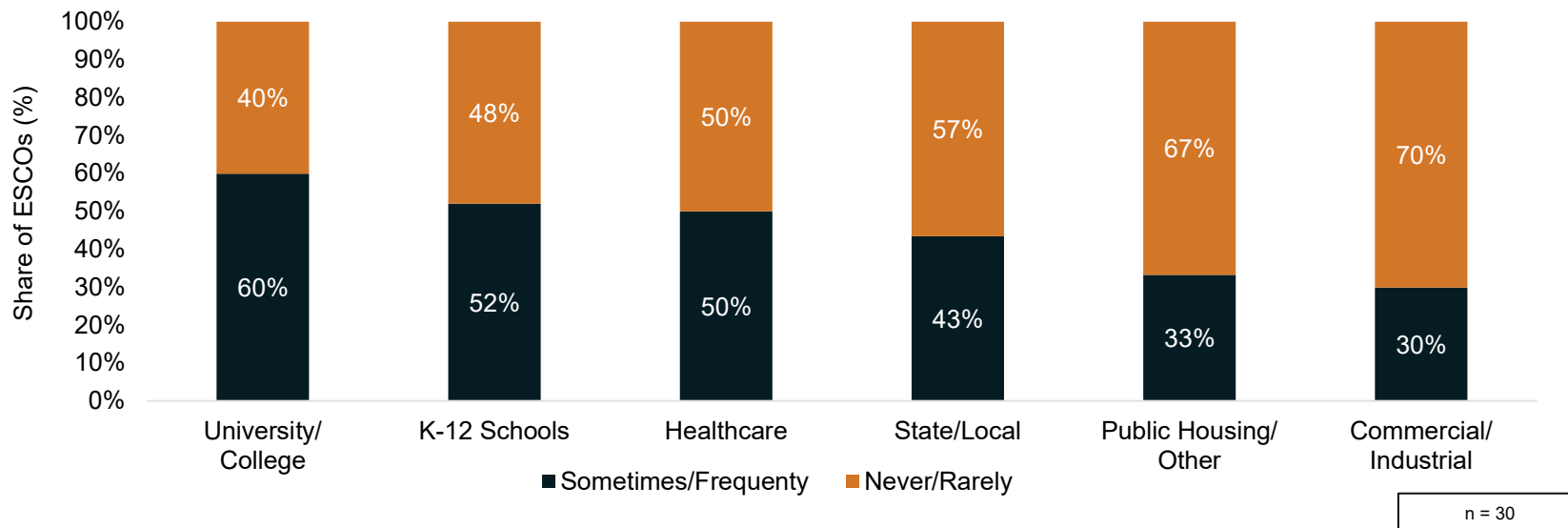
State Energy Office or ESPC Program Utilization

- ESCOs reported that SEOs or ESPC programs sometimes helped drive business for the following categories:
 - Funding assistance
 - Solicitation/contract templates
- A majority of ESCOs reported they never or rarely used SEOs or ESPC programs.



Frequency of ESCOs Informing Customers of TA

- ESCOs reported that they frequently inform customers of TA resources (50-60% of the time) for university/college, K-12 schools, and healthcare projects.
- ESCOs promote TA resources to customers in the local and state government, public housing and C&I markets less than 50% of the time.

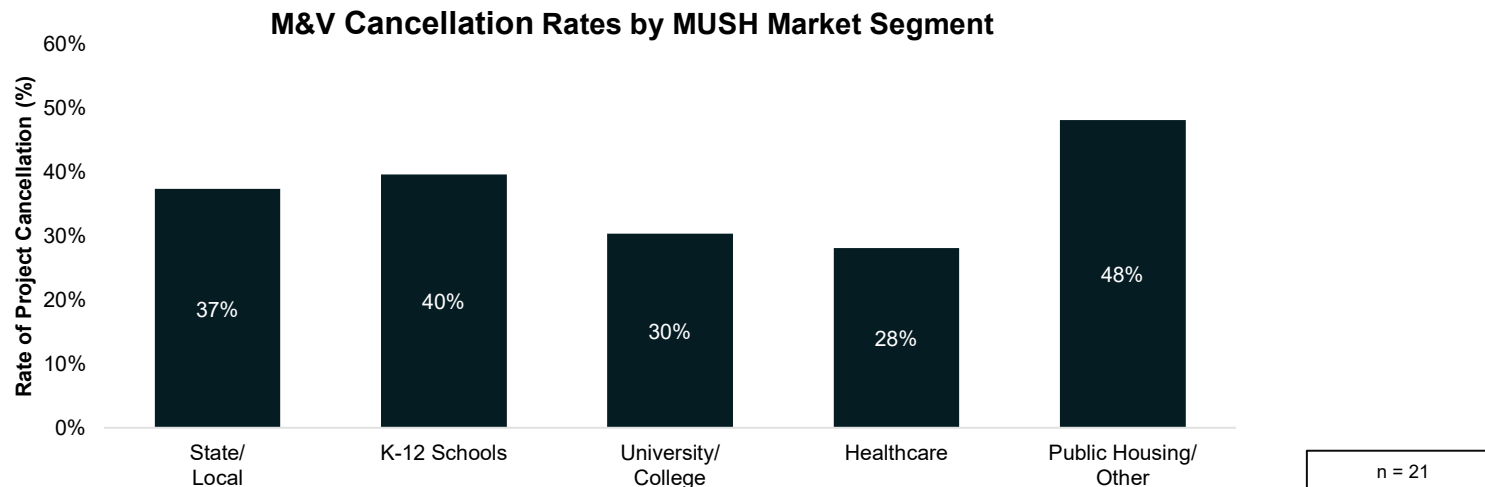


Challenges



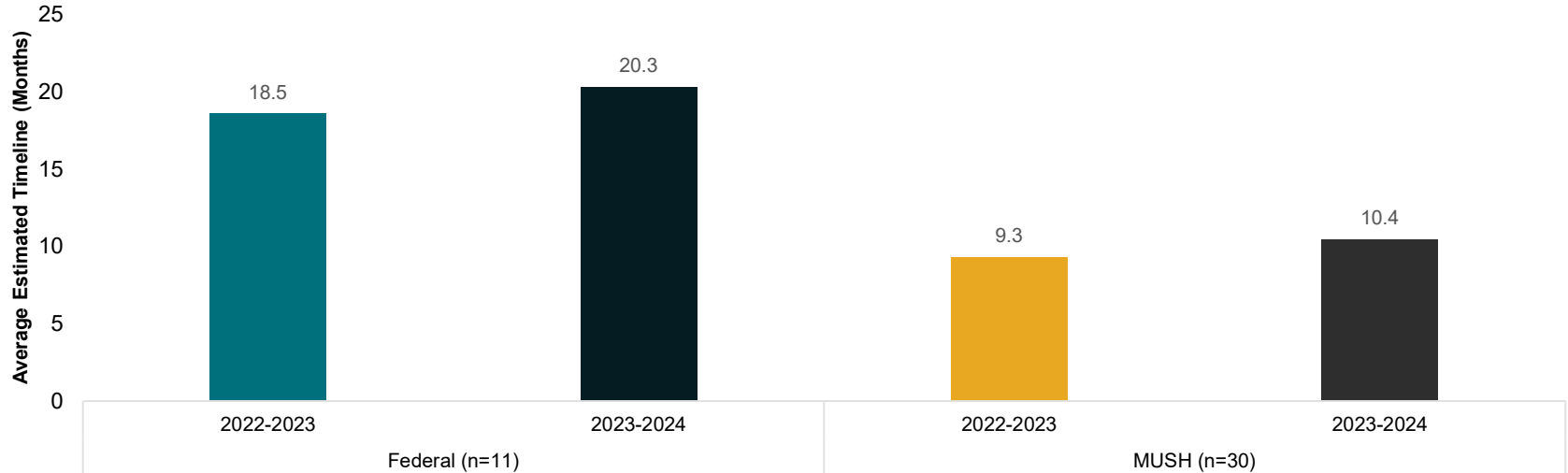
Share of ESPC M&V Cancellation by MUSH Market Segment

- Across all MUSH market segments*, ESCOs report that on average ~37% of customers cancel their M&V contracts before the term is completed.
- ESCOs reported that the highest rate of customer cancellations of M&V contracts are in the public housing/other (48%) and K-12 schools (40%) market segments.
- The lowest rate of cancellations reported was in the healthcare market segment (28%).



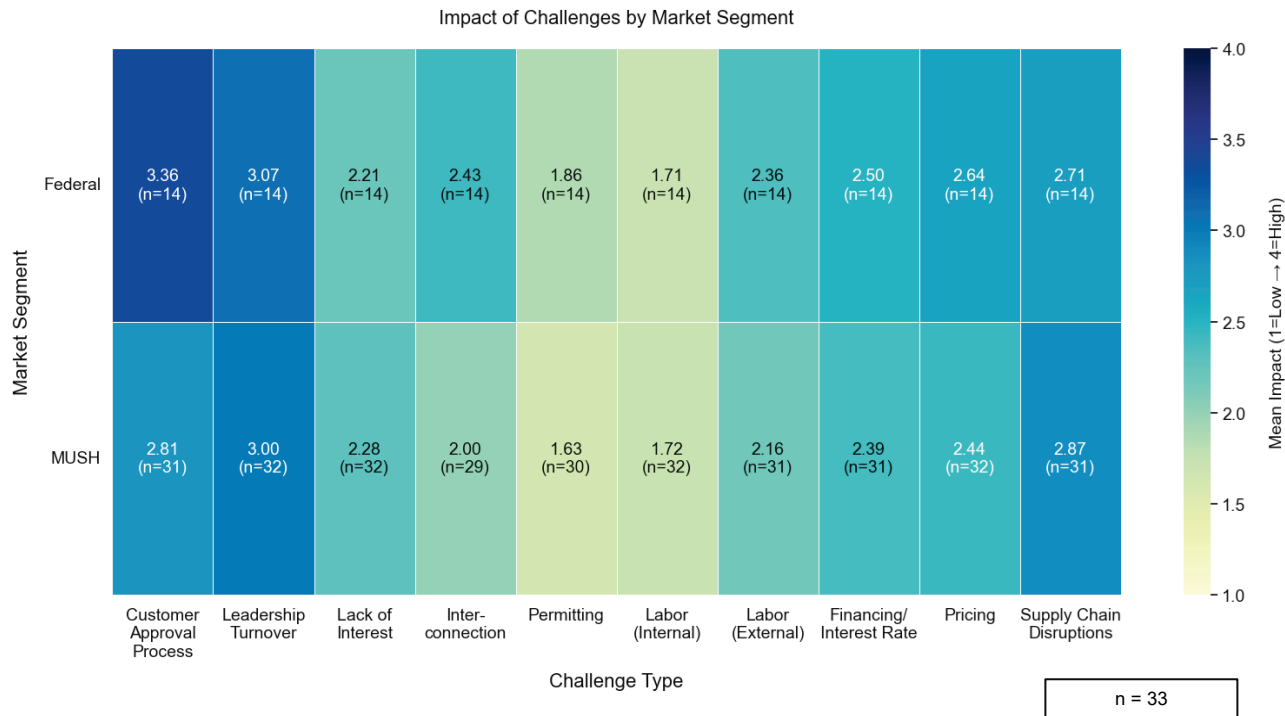
Trends in Average Development Timeline MUSH vs Federal

- Nearly three-quarters (73%) of ESCOs reported that project development timelines were increasing between 2022 and 2024.
- ESCOs reported that the timelines for federal projects grew by ~10% and by ~12% for MUSH projects between 2022 and 2024.
- The average timeline for MUSH projects was 10.4 months in 2024 and 20.3 months for federal projects in 2024.



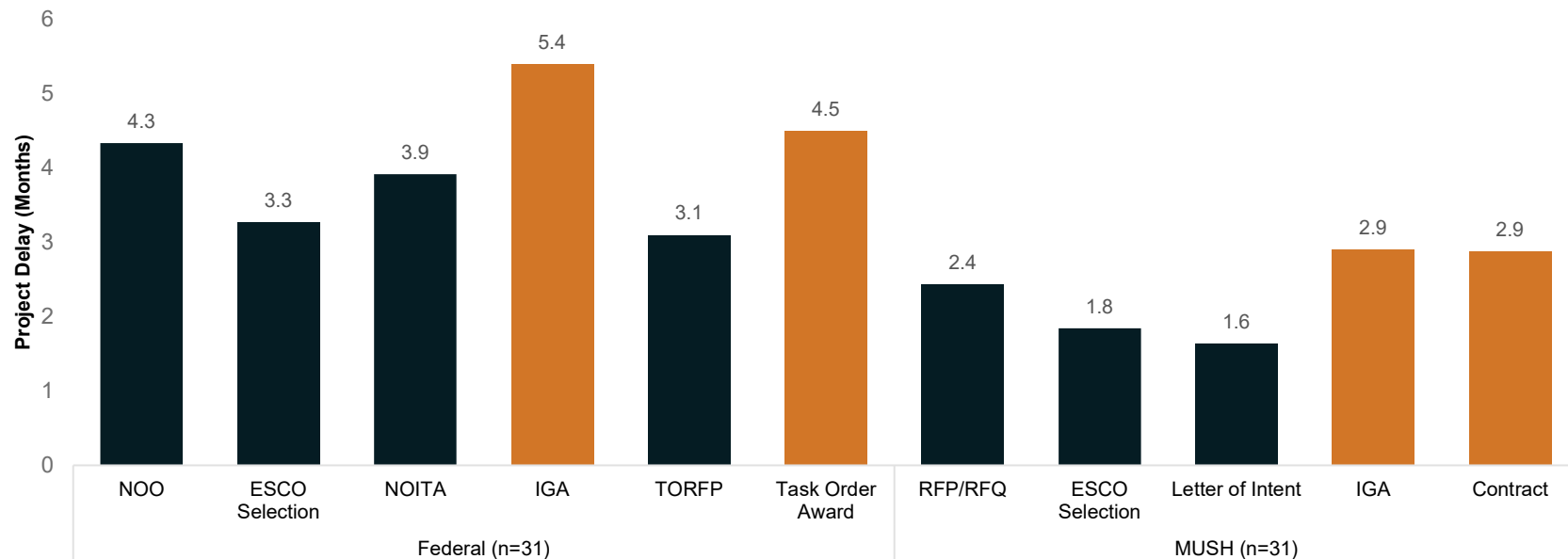
Project Challenges by Market Segment (2022-2024)

- ESCOs reported the biggest challenges facing the federal and MUSH markets were during the customer approval process and due to leadership turnover.
- Supply chain disruptions were also indicated as a major challenge for both MUSH and federal projects, with a slightly higher average impact on the MUSH market.



Development Timeline Delays by Phase and Segment (2022-2024)

- The longest project delays for federal projects occurred during the investment grade audit (IGA) and task order awards phases.
- The contract phase and IGA phase represented the longest delays for MUSH projects.



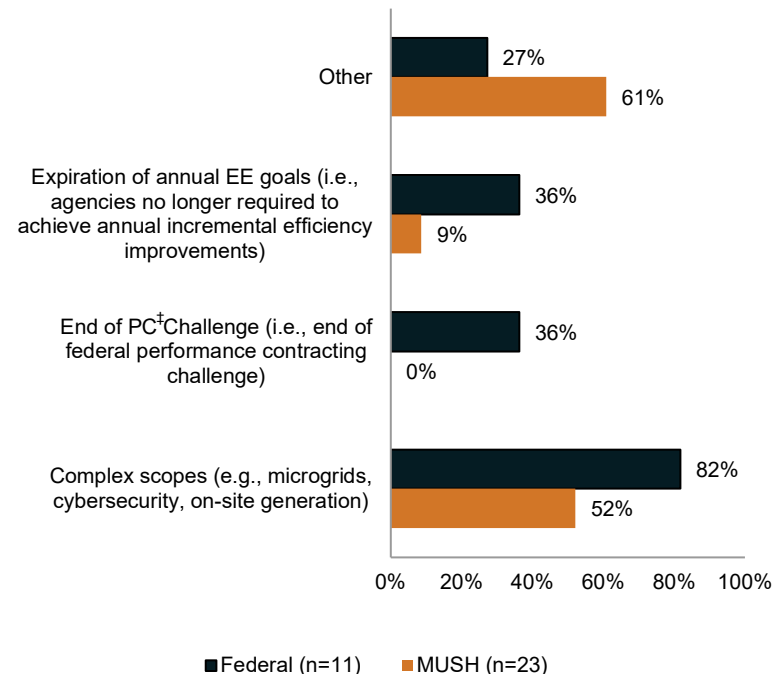
Acronyms:

IGA: Investment Grade Audit
NOITA: Notice of Intent to Award
NOO: Notice of Opportunity

TORFP: Task Order Request for Proposal
RFP/RFQ: Request for Proposals/ Request
for Qualifications

Reasons for Delays in Federal and MUSH Projects

- In the federal sector, 82% of ESCOs (11 total responses) reported that complex project scopes were the most common source of project delays.
- Likewise, in the MUSH sector, 52% of ESCOs reported delays due to complex project scopes.
- The expiration of annual efficiency goals or performance contracting challenge targets were found to be a cause of federal project delays for 36% of ESCOs that responded.
 - Only 9% of ESCOs responded that expiration of annual efficiency goals were a major cause of delays.
 - Out of the 17 responses received, 14 (82%) listed finding experienced/qualified/skilled labor/contractors to be a problem.
 - Other issues encountered include high pricing and a lack of bids.

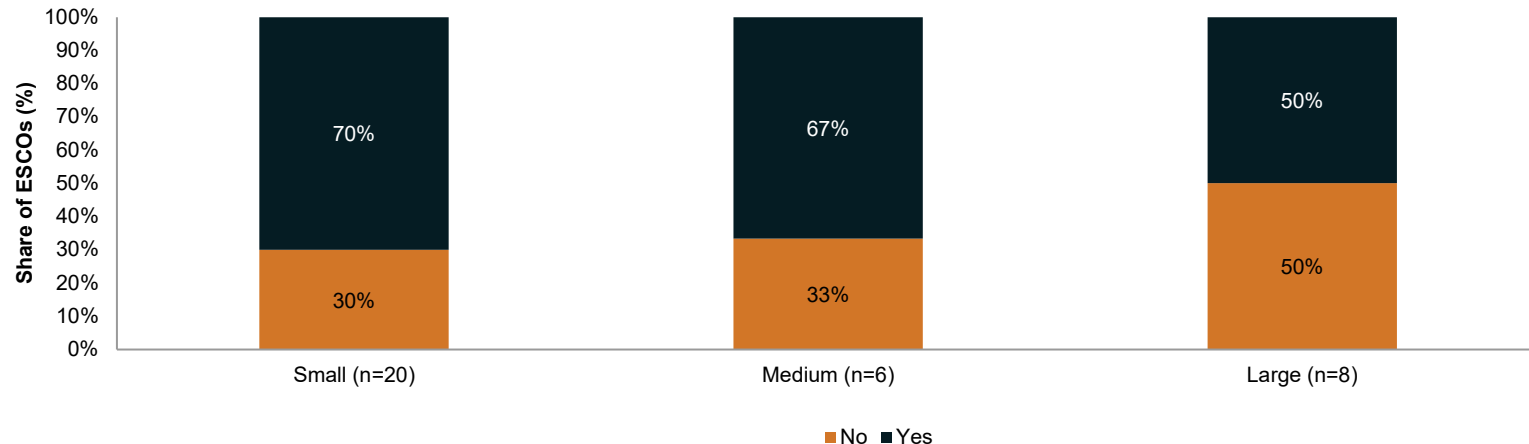


Subcontractors



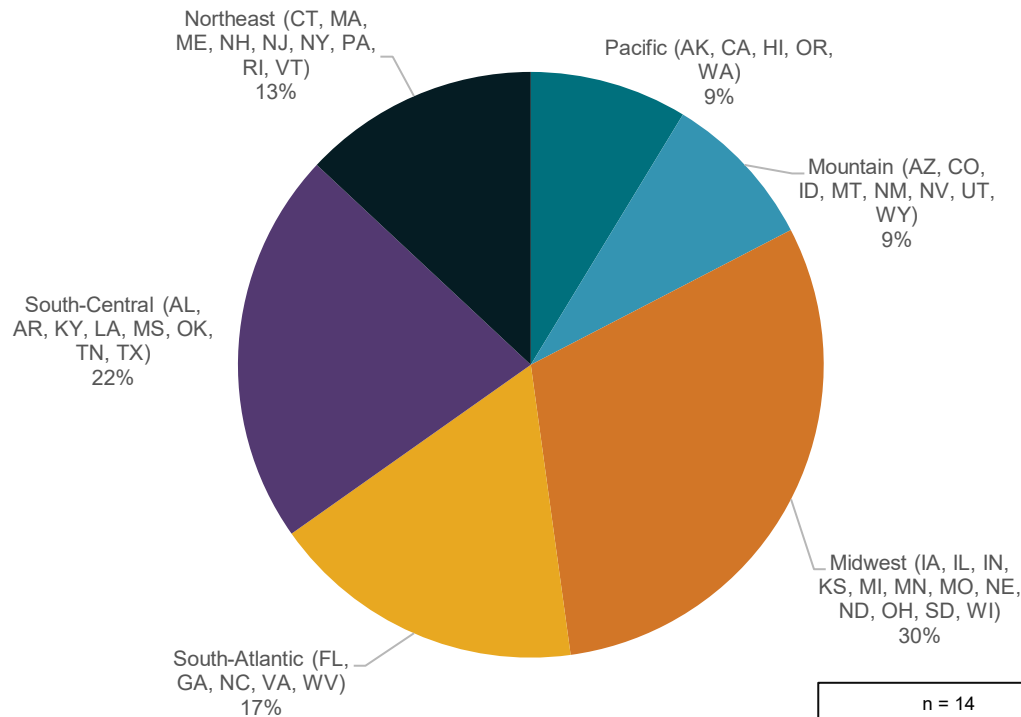
Percentage of Companies with Subcontractor Challenges by ESCO Size

- Small- and medium-sized ESCOs reported challenges with finding qualified subcontractors for projects (70% and 67%, respectively).
- Half of the large-sized ESCOs that responded to the survey reported difficulty in finding subcontractors.



Geographical Challenges Finding Subcontractors

- A majority of ESCOs (68%) report experiencing regional challenges in finding qualified subcontractors.
- The greatest regional challenges in finding subcontractors were reported for the Midwest (30%), followed by South-Central (22%), and South-Atlantic (17%) regions.
- The subcontractor labor constraints may be driven by rural versus urban markets, and by supply constraints to manage increasing demands from multiple sectors and industries, among other reasons.*



Conclusions



Takeaway of Market Trends: High-level ESCO Revenue

High-level revenue trends:

- ESCOs reported aggregated industry (nominal) revenue for 2024 of \$10.7 billion and projected industry annual revenue of \$15.0B in 2027. The 2024 reported revenue represents a 103% increase since 2014 and 78% increase since 2018.
 - However, after adjusting for inflation, revenue growth was less significant at 56% (since 2014) and 45% (since 2018).

Revenue by market segment and business activity trends:

- The largest share of revenue was generated from the state/local government (\$1.8B) and K-12 schools (\$3.2B) market segments in 2024, continuing a decade-long trend.
- Performance-based contracting remains the major vehicle for projects in the MUSH market (K-12 schools, university/college, healthcare, and state/local government), as well as for federal projects.
- Design-build projects increasingly capture a share of the MUSH and C&I market segments (68% of revenue was developed by design-build projects in the C&I sector in 2024).



Takeaway of Market Trends: Regional Revenue and Drivers

Regional revenue trends:

- When regional revenue is normalized for population density, the Mid-Atlantic and New England regions were found to have the highest revenue on a per capita basis (\$36 and \$35 per capita, respectively).
 - In contrast, the (nominal) regional revenue analysis found that the largest share of ESCO revenue was generated in the Pacific (\$1.54B) region, while the smallest share of revenue was in West North Central (\$0.50B) region.

Drivers of ESPC projects:

- ESCOs identified that the following customer priorities were driving ESPC projects (1) deferred capital improvement needs across nearly all market segments, followed by (2) energy/utility savings.
 - ESCOs further identified that across market segments, the biggest non-energy benefits driving ESPC projects were avoided capital and O&M costs, while tradable credits were declining as drivers across several market segments.
- The most frequently deployed energy security measures across projects were onsite generation without a microgrid, battery storage, and microgrids. In the federal market, cybersecurity measures were the most frequently implemented measures.
- Deductions were the most commonly reported incentive used in the local/state, K-12 schools, and university/college market segments, underlining the important of continued deductions to drive ESPC projects in these markets.



Takeaway of Market Trends: Revenue by ESCO Size

Revenue by ESCO size trends:

- Over recent reporting periods, Berkeley Lab analyzed small- (<\$100M), medium- (\$100M-\$299M), and large- (>\$300M) sized ESCO categories.
 - There has been consolidation and growth in the ESCO market, with large-sized (>\$300M) ESCOs seeing a marked increase in total market share in 2024 compared to 2018. The total share of revenues captured by large-sized ESCOs grew by over 14% in the 2018-2024 period compared to the previous period. Small-sized ESCOs lost significant market share (nearly 12%) and medium-sized ESCOs lost ~2% market share.
 - However, the fixed-classification approach used in the ESCO market survey reports implies that an increase of revenue above \$300M results in a reclassification of ESCOs from small- or medium-sized into large-sized ESCOs. Thus, when adjusting ESCO revenue for inflation between 2018 and 2024, some of this market growth across size classifications can be attributed to upward shifts in ESCO size. See Technical Appendix (TA03) for further detail.
 - Other factors that could have contributed to the market share gains include M&A activities, such as large-sized ESCOs acquiring small- or medium-sized ESCOs, or a size advantage of larger market players resulting in larger market share capture.



Takeaway of Market Trends: Federal Market

Federal market trends:

- Federal revenue share declined from 16% to 15% between 2018 and 2024 (\$1.6B reported in 2024).

M&V trends:

- Overall, the majority of revenue generated with ESPC projects included M&V contracts: 76% on average across market segments, but 100%-reported for federal projects.

Financing in federal market:

- ESCOs reported utilizing the following financing for projects in the federal market: traditional financing (43%), ESAs (36%), Utility Energy Service Contract (UESC) (19%), and power purchasing agreements (PPAs) (2%).

Development timeline delays in federal market:

- Nearly three-quarters (73%) of ESCOs reported that project development timelines were increasing between 2022 and 2024.
- Federal project timelines grew by ~10% and the average timeline for federal projects in 2024 was 20.3 months. The longest project delays for federal projects occurred during the IGA and task order awards phases.

Development challenges in the federal market:

- ESCOs reported the biggest challenges facing the federal market were during the customer approval process and due to leadership turnover. Supply chain disruptions were also indicated as a major challenge for federal projects.

Non-energy benefit drivers:

- For 2022-2024, ESCOs reported that the main two drivers of ESPC projects in the federal market were realizing avoided O&M and capital costs.



Potential Opportunities

Challenges by market segment:

- ESCOs reported lengthening timelines in both the MUSH and federal market segments, with the longest timeline delays occurring in the federal market.
 - These project delays are reportedly most commonly due to complex project scope in both MUSH and federal sector projects.
 - Policymakers, researchers, and other industry stakeholders can consider using AI approaches to identify (1) project development bottlenecks across the country; and (2) suggest remedies to shorten development timelines (e.g., eliminating unnecessary or redundant requirements).
- The majority of ESCOs reported challenges in finding subcontractors at a regional level, particularly in the Midwest, followed by South-Central, and South-Atlantic regions.
 - Policymakers at the local-, state-, and federal-level can consider implementing targeted workforce development programs to address subcontractor constraints in the Midwest, South-Central, and South-Atlantic regions.
- Across all market segments, ESCOs report that on average ~37% of customers cancel their M&V contracts before the term is completed, which highlights a potential area to be investigated in further research.



Technical Appendix and References



TA01: Validation Checks

- Missing revenue was addressed through the Delphi process (27 out of 69 total ESCOs). The Delphi panel estimated low and high estimates on the ESCO 2024 revenue, and the high estimate was used following standards set in past reports.
- 2022 and 2023 revenue were estimated using the reported annualized historical growth from 2022-2024 and 2024 revenue.
- 2025-2027 revenue was estimated using the reported annualized forecast growth and 2024 revenue.
- All percentages fields were validated. For some that do not add up to 100%, we rescale based on what was provided.
- Responses that provided the wrong units of measurement (i.e., dollar amounts instead of percentage) were corrected.
- Responses with values that fell outside of a reasonable range (i.e., M&V delivery time given is 75 years) were individually analyzed and remediated (e.g., exclude, rescale).
- ESCO sizes are broken down into three categories following the structure set in past studies (e.g., Stuart et al. 2021): Small (<\$100M), Medium (\$100-\$300M), and Large (>\$300M).



TA02: Response Rate

Description	Number of Responses	Response Rate
2024 Revenue \$	69*	100%
2022-24 Revenue growth %	41	98%
2025-27 Revenue growth %	41	98%
Revenue by Region \$	40	95%
Revenue by Market %	40	95%
Revenue by Contract %	39	93%
Bookings 2022-24 \$	36	86%
Bookings by State \$	34	81%
Bookings by Market	37	81%
MUSH, Full Term MV Mandated	32	76%
MUSH, Full Term MV Delivered	32	76%
MUSH, LT Full Term MV Delivered	33	79%
MUSH MV Term Distr by Market	31	74%
MUSH MV LT Full Term Deliver Years	32	76%
Tax Incentive Proj 22-24	32	76%
Ratepayer Funded Proj 22-24	29	69%
Funding Distr 22-24	33	79%
Financing Distr 22-24	32	76%

Description	Number of Responses	Response Rate
NEBs Trend 22-24	30	71%
Cust Priority 22-24	31	74%
Resilience Measures Freq 22-24	27	64%
Repeat Customers	33	79%
State ESPC Support	30	71%
3rd Party Support	30	71%
Proj Driven by TA	30	71%
Firm Shares TA	30	71%
Challenge Impact	33	79%
Timeline Rising	33	79%
Avg Dev Time	31	74%
Delay Phase	31	74%
Fed Delay Reasons	12	29%
MUSH Delay Reasons	29	69%
Subcontractor Shortage	34	81%
Subcontractor Shortage Location	13	31%
Subcontractor Shortage Regions	14	33%
Subcontractor Issues Description	18	43%

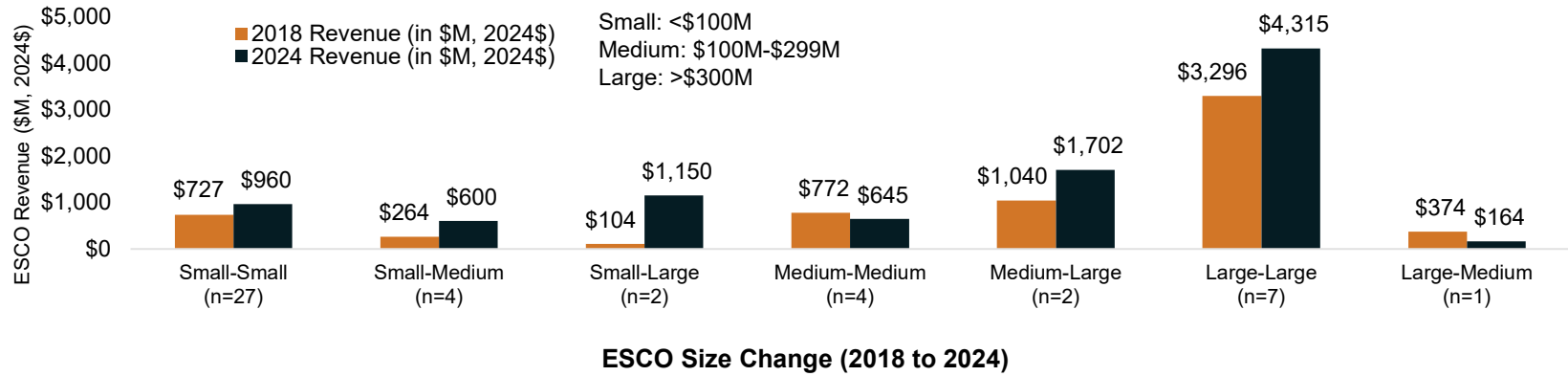
- A total of 42 ESCOs participated in the survey.
- Revenue for 27 ESCOs were estimated through Delphi panel.
- Thus, revenue for 69 ESCOs were included in the 2024 Revenue question, while the survey responses out of the 42 ESCOs were included for the rest of the survey questions.
- Our response rate varied by question, but response rate to substantive questions was 74%, on average.

*42 ESCOs responded to this question and the revenues for an additional 27 companies were estimated through the Delphi process.



TA03: ESCO Size Change Since 2018

- We compared the revenue from 47 ESCOs captured in both the 2018 and 2024 studies to understand shifts of ESCOs between these three categories of small, medium and large. 2018 revenue were adjusted to 2024\$ and were re-sized accordingly.
- The following analysis depicts the change in ESCO size between 2018 and 2024 using the small-, medium-, and large-sized classifications noted in the chart.
 - A total of 82% of small-sized ESCOs remained the same from 2018-2024, while 12% grew to medium-sized ESCOs and 6% grew to large-sized ESCOs.
 - A total of 66% of medium-sized ESCOs remained the same from 2018-2024, while the remaining 33% grew to large-sized ESCOs.
 - A total of 88% of large-sized ESCOs from 2018 remained the same, with 13% shrank to a medium-sized ESCO.
 - A mix of organic growth and market consolidation through M&A saw upward shifts in ESCO size.



References (1)

- Baik, S. Chelminski, K., Earni, S. and E. Stuart (2025) Evaluating GHG Mitigation Potential from ESPC Projects. LBNL: Berkeley. <https://emp.lbl.gov/publications/evaluating-ghg-mitigation-potential>.
- Bharvirkar, R., Goldman, C.A., Gilligan, D., Singer, T.E., Birr, D., Donahue, P. and S. Serota (2008) Performance Contracting and Energy Efficiency in the State Government Market. LBNL: Berkeley. <https://emp.lbl.gov/publications/performance-contracting-and-energy>.
- Carvallo, J.P., Larsen, P.H., and C.A. Golden (2015) Estimating customer electricity and fuel savings from projects installed by the US ESCO industry. ESCO Industry Brief. LBNL: Berkeley. <https://eta-publications.lbl.gov/sites/default/files/lbnl-6877e.pdf>.
- Carvallo, J.P., Murphy, S. P., Stuart, E., Larsen, P. H. and C. Goldman (2019) Evaluating project level investment trends for the U.S. ESCO industry: 1990-2017. *Energy Policy* 130: 139-161. <https://doi.org/10.1016/j.enpol.2019.03.061>.
- Goldman, C.A., Hopper, N.C. and J. G. Osborn (2005) Review of U.S. ESCO Industry Market Trends: An Empirical Analysis of Project Data. *Energy Policy* 33: 387-405. <https://doi.org/10.1016/j.enpol.2003.08.008>.
- Goldman, C. A., Osborn, J. G. Hopper, N. C., and T. E. Singer (2002) Market Trends in the U.S. ESCO Industry: Results from the NAESCO Database Project. LBNL: Berkeley. <https://emp.lbl.gov/publications/market-trends-us-esco-industry>.



References (2)

- Hopper, N., C. Goldman, D. Gilligan and T. Singer, and D. Birr. (2007) A Survey of the U.S. ESCO Industry: Market Growth and Development from 2000 to 2006. LBNL-62679. May. <https://emp.lbl.gov/publications/evolution-us-energy-service-company-0>.
- Larsen, P. H., Carvallo, J.P., Goldman, C. A., Murphy, S. and E. Stuart (2017) *Updated Estimates of the Remaining Market Potential of the U.S. ESCO Industry*. LBNL: Berkeley. <https://emp.lbl.gov/publications/updated-estimates-remaining-market>.
- Larsen, P.H., Goldman, C. A., and A. Satchwell (2012) Evolution of the U.S. Energy Service Company Industry: Market Size and Project Performance from 1990-2008. *Energy Policy* 50: 902-920. <https://doi.org/10.1016/j.enpol.2012.08.035>.
- Satchwell, A., Goldman, C. A., Larsen, P.H., Gilligan, D. and T. E Singer (2010) A Survey of the U.S. ESCO Industry: Market Growth and Development from 2008 to 2011. LBNL: Berkeley. <https://emp.lbl.gov/publications/survey-us-esco-industry-market-0>.
- Stuart, E., Carvallo, J.P., Larsen, P.H., Goldman, C.A. and D. Gilligan (2018) Understanding recent market trends of the US ESCO industry. *Energy Efficiency* 11, 1303–1324. <https://doi.org/10.1007/s12053-018-9633-9>.
- Stuart, E., Hanus, N., Carvallo, J.P., and P. Larsen (2021) U.S. ESCO Industry: Industry Size and Recent Market Trends. LBNL: Berkeley. https://eta-publications.lbl.gov/sites/default/files/lbnl_esco_market_study_07june2021_-_nh.pdf.
- Stuart, E., Larsen, P.H., Carvallo, J.P., Goldman, C.A. and D. Gilligan (2016) U.S. Energy Service Company (ESCO) Industry: Recent Market Trends. LBNL: Berkeley. <https://emp.lbl.gov/publications/us-energy-service-company-esco>.
- Stuart, E., Larsen, P.H., Goldman, C.A. and D. Gilligan (2013) Current Size and Remaining Market Potential of the U.S. Energy Service Company Industry. LBNL: Berkeley. <https://emp.lbl.gov/publications/current-size-and-remaining-market>.



Disclaimer and Copyright

Disclaimer

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof, or The Regents of the University of California. Ernest Orlando Lawrence Berkeley National Laboratory is an equal opportunity employer.

Copyright Notice

This manuscript has been authored by an author at Lawrence Berkeley National Laboratory under Contract No. DE-AC02-05CH11231 with the U.S. Department of Energy. The U.S. Government retains, and the publisher, by accepting the article for publication, acknowledges, that the U.S. Government retains a non-exclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this manuscript, or allow others to do so, for U.S. Government purposes.

