



Energy Technologies Area

Lawrence Berkeley National Laboratory

Financing Efficiency in the Non-Residential Sector

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**Lawrence Berkeley National
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Current Practices in Efficiency Financing: An Overview for State and Local Governments

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TECHNICAL BRIEF

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Energy Efficiency Program Financing Where it comes from, where it goes, and how it gets there

Jeff Deason, Greg Leventis, Charles A. Goldman, and Juan Pablo Carvallo

In this technical brief we characterize the programmatic energy efficiency financing market from a quantitative perspective. Financing in this report refers to provision of capital—which is paid back over time—to cover up-front costs of energy efficiency. It does not refer to rebates and other types of incentives. We gather and report data on the volume of capital for energy efficiency financing that originated from five programmatic sources: on-bill programs; other utility financing programs; property assessed clean energy (PACE) programs; state energy office (SEO) revolving loan funds (RLF); and energy savings performance contracting (ESPC) programs. We estimate the amount of investment moving through EE financing programs, the sources of capital they employ, and program availability and activity by geography and market sector (residential and non-residential). We also present information on trends in investment by program type, and on the presence or absence of certain program design features, such as credit enhancements and interest rate buydowns. The result is a much more comprehensive accounting of programmatic energy efficiency financing activity than exists elsewhere.

Our key takeaways include:

- Programmatic financing sources in our sample of programs accounted for about \$4.8 billion in energy efficiency lending capital in 2014;
- ESPC represents about 85% of that total; the remaining efficiency finance programs accounted for about \$700 million in 2014;
- Excluding ESPC, total loan volumes are heavily driven by a handful of programs that are lending large volumes while most programs are small;
- About 65% of the loan volume for efficiency finance programs in our sample targeted electric savings rather than savings from other fuels;
- Efficiency finance programs are available in most states in most sectors, though gaps do exist;
- Public capital, especially State Energy Program (SEP) and Energy Efficiency and Conservation Block Grant (EECBG) capital made available through the American Recovery and Reinvestment Act (ARRA), has played a role in many of the programs in our study;
- The programs that have attained the largest lending volumes have engaged private capital and tend to employ more credit enhancements and interest rate buydowns (IRB).

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Agenda

- ◆ **Barriers** to efficiency adoption in the non-residential sector
- ◆ **Financing products** used to pay for efficiency
- ◆ **Experience** with financing products

Barriers to efficiency adoption

Barriers efficiency adoption

- ◆ **Access to Capital**
- ◆ **Cash Flow (customer focus on short paybacks)**
- ◆ **Customer Debt Limits**
- ◆ **Owner-Renter Split Incentives**
- ◆ **Occupancy Duration**
- ◆ **Application Process**

Barriers efficiency adoption

Key to following slide

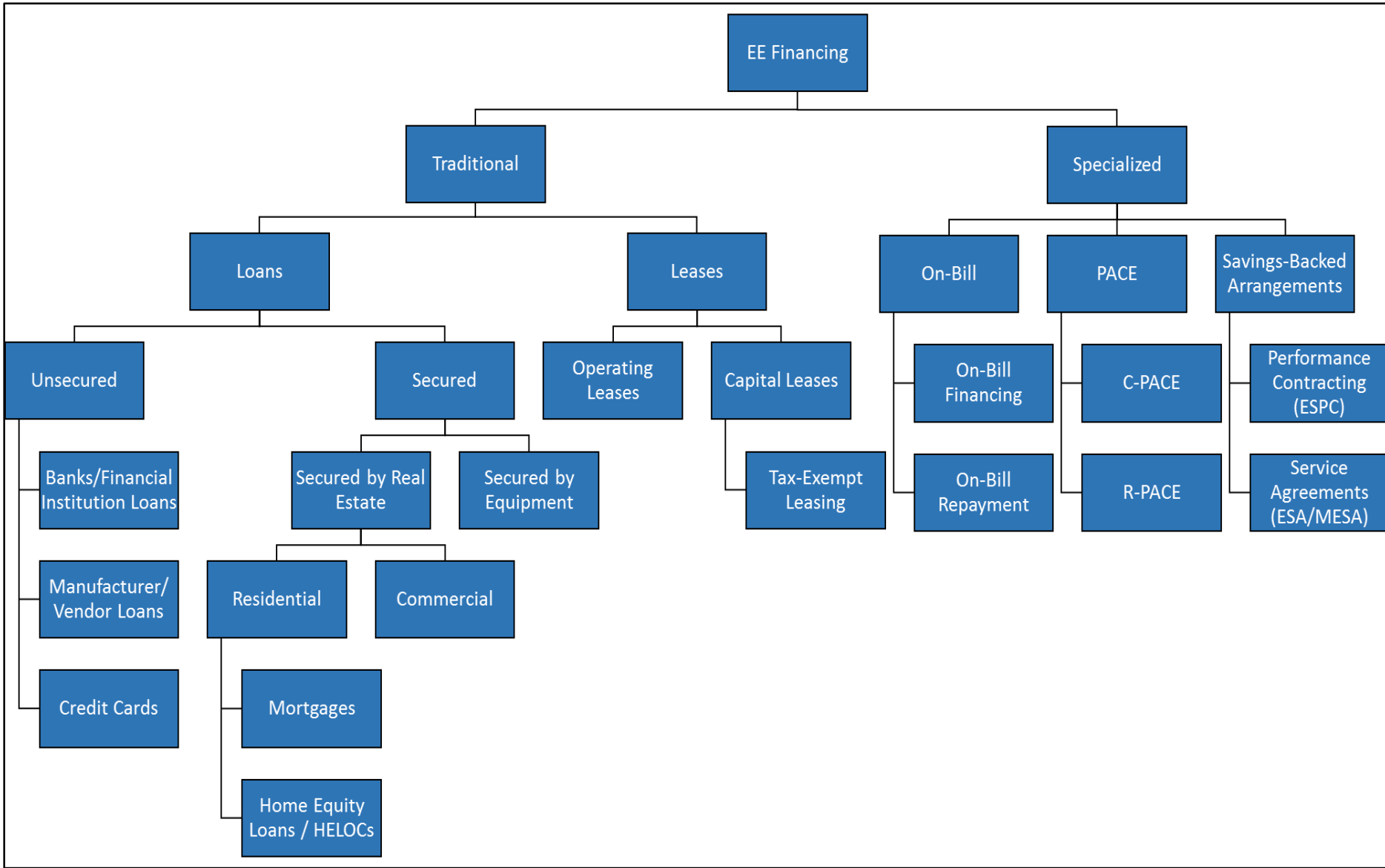
MARKET SECTOR	
Barrier not important enough to drive design of an EE program	
Barrier may be relevant but not paramount in this sector	○
Barrier may be especially important in this sector	●

Barriers efficiency adoption

MARKET BARRIER	MF Afford- able	MF Mkt rate	C&I Small Bus.	C&I Large	MUSH
Access to capital	●		●		
Cash flow	●	○	○	○	○
Customer debt limit	●		○	○	●
Owner-renter split incentives	●	●	●	●	
Occupancy duration	○	○	○	○	
Application process	●	○	●	○	○

Financing products

Financing products



Financing products

Key to following slide

FINANCING PRODUCT	
This product does not address this barrier	
This product may address this barrier or somewhat addresses this barrier	○
This product is likely to be able to overcome this barrier	●

Financing products

MARKET BARRIER	FINANCING PRODUCTS					
	UN-SECURED	SECURED	LEASING	ON-BILL	PACE	SAVINGS-BACKED
Access to capital	○	○	○	●	○	○
Cash flow	○	●	○	○	●	●
Customer debt limits			○	○	○	○
Owner-renter split incentives				○	○	
Occupancy duration				●	●	
Application process	●		●	●		

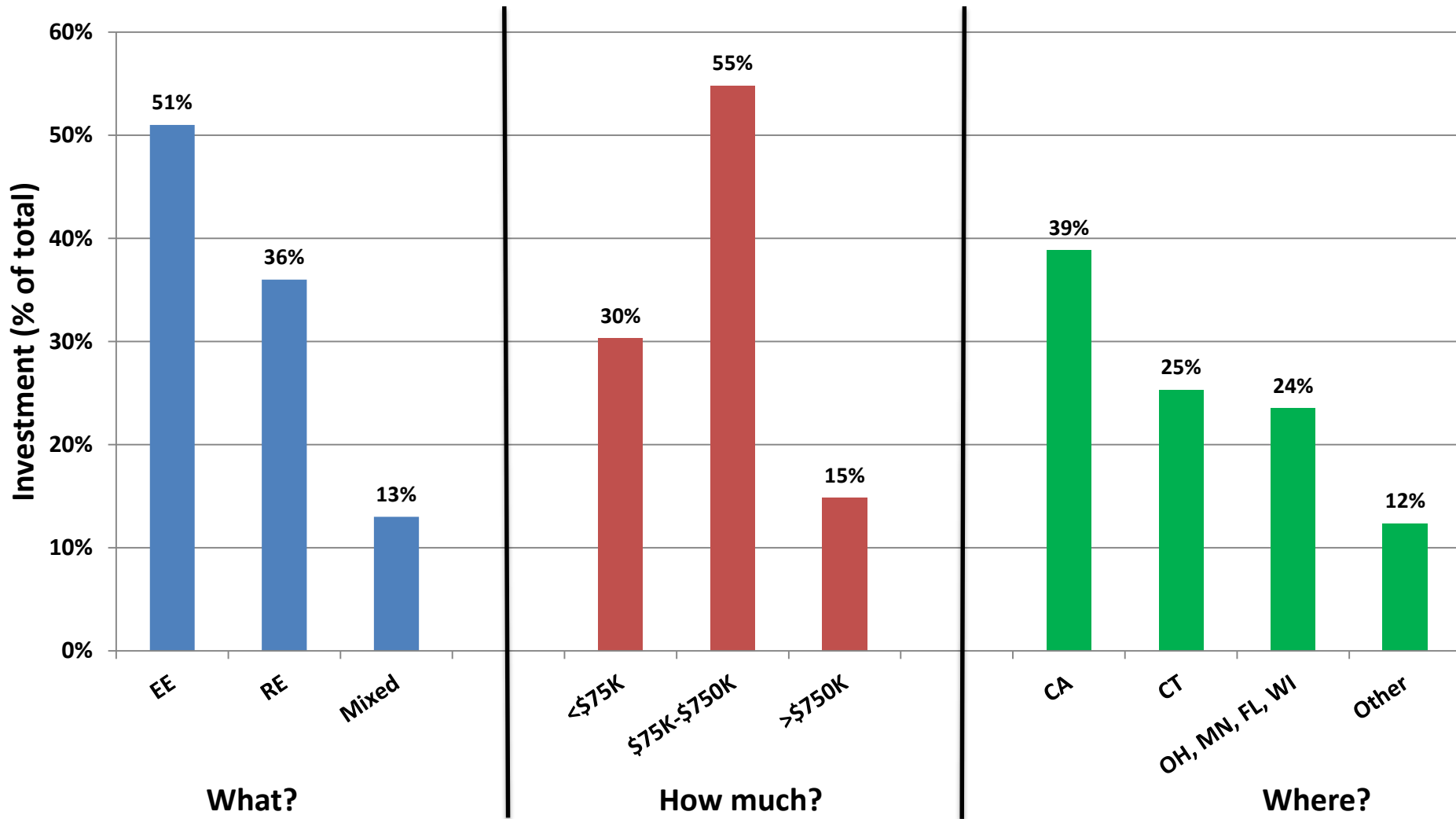
Experience

Experience: Programmatic Financing in 2014

Program Type	C&I Sector Loan Volume (\$M)	Public / Institutional Sector Loan Volume (\$M)	Total Non-residential Number of Loans
On-bill	\$89	\$14	11,468
Utility loan (off-bill)	\$6	\$0.1	231
Property Assessed Clean Energy Financing (PACE)	\$18	\$0.8	27
State Energy Office Revolving Loan Fund	\$12	\$45	92
Energy Savings Performance Contract (ESPC)	\$171	\$3,929	*
Total	\$296	\$3,989	11,818

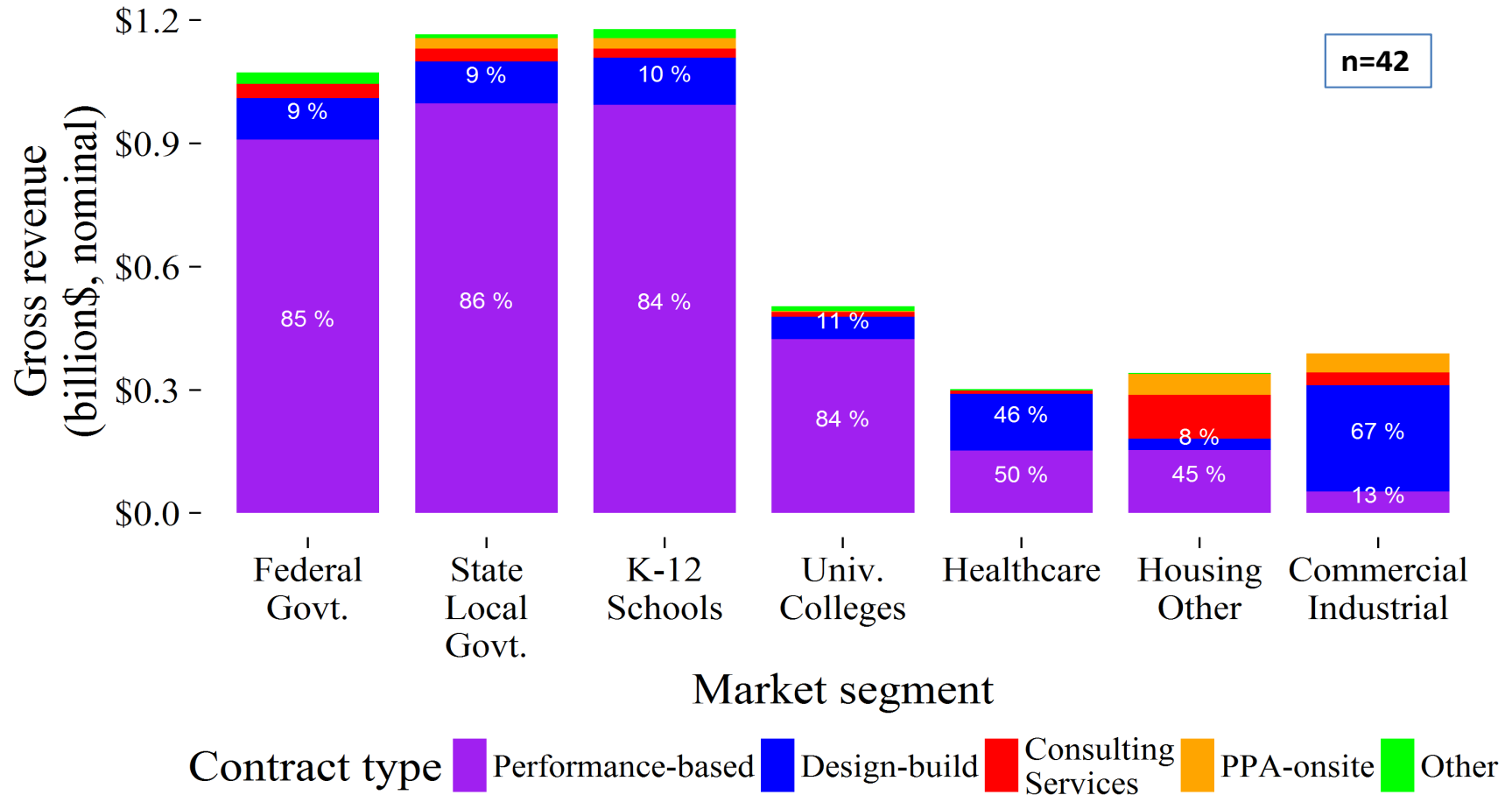
*Project-level data needed to estimate the number of loans for ESPC was not available.

Experience: CPACE

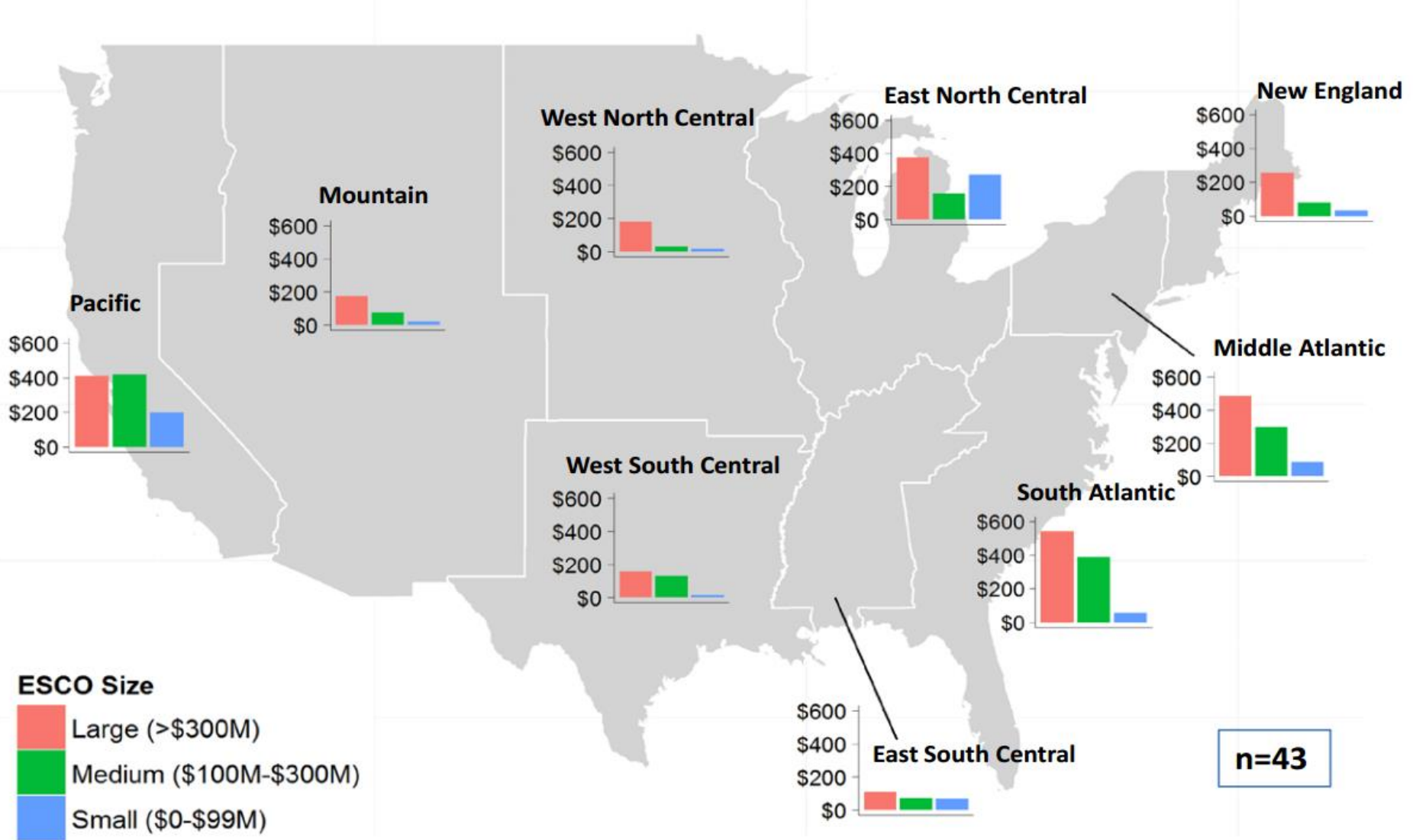


Experience: ESPC 2014 revenues

ESPC use by volume and sector



Experience: ESPC 2014 revenues



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