



# State of the Union for Energy Efficiency Finance

Tuesday May 16  
9:30 – 10:45 AM

# Panelists

- Brian Stickles, American Council for an Energy-Efficient Economy (ACEEE)
- Anmol Vanamali, Vermont Energy Investment Corporation (VEIC)
- Joe Indvik, JDM Associates

# State of the Union for Energy Efficiency Finance

May 16, 2017



# Presenters



Anmol Vanamali is the Financing Strategies Director at the Vermont Energy Investment Corporation (VEIC). He is responsible for the design and implementation of innovative financial mechanisms and business ventures in sustainable energy.



Brian Stickles is on the Economics & Finance Policy team at the American Council for an Energy-Efficient Economy. He is currently focused on identifying and studying best practice approaches for financing energy efficiency improvements.

# About VEIC

- Over 30 years of enhancing the economic, environmental, and societal benefits of clean and efficient energy use for all people
- Comprehensive approaches, high-impact results
- Energy efficiency, renewable energy, and transportation
- Transformative policy, advocacy, and research
- Clients: government agencies, regulators, utilities, foundations, and advocates



[veic.org](http://veic.org)



The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy.

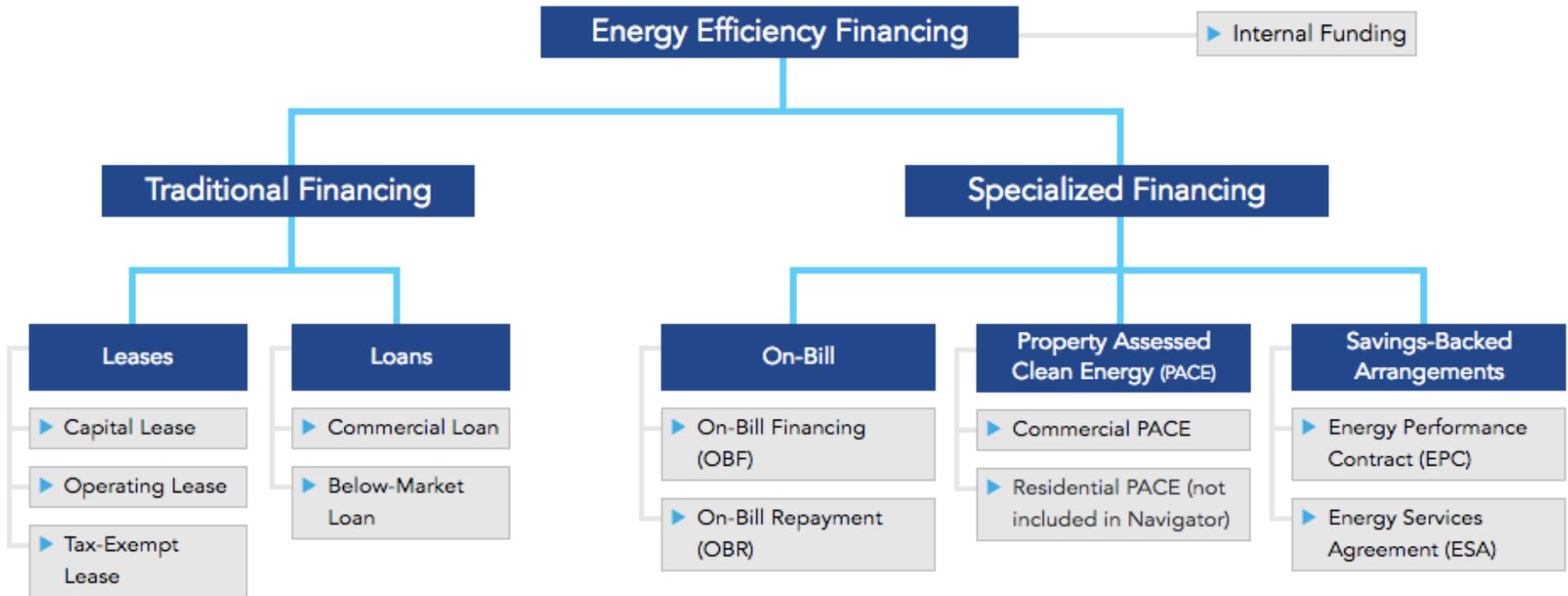
Our work is made possible by foundation funding, contracts, government grants, and conference revenue.

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**ACEEE**  
American Council for an Energy-Efficient Economy

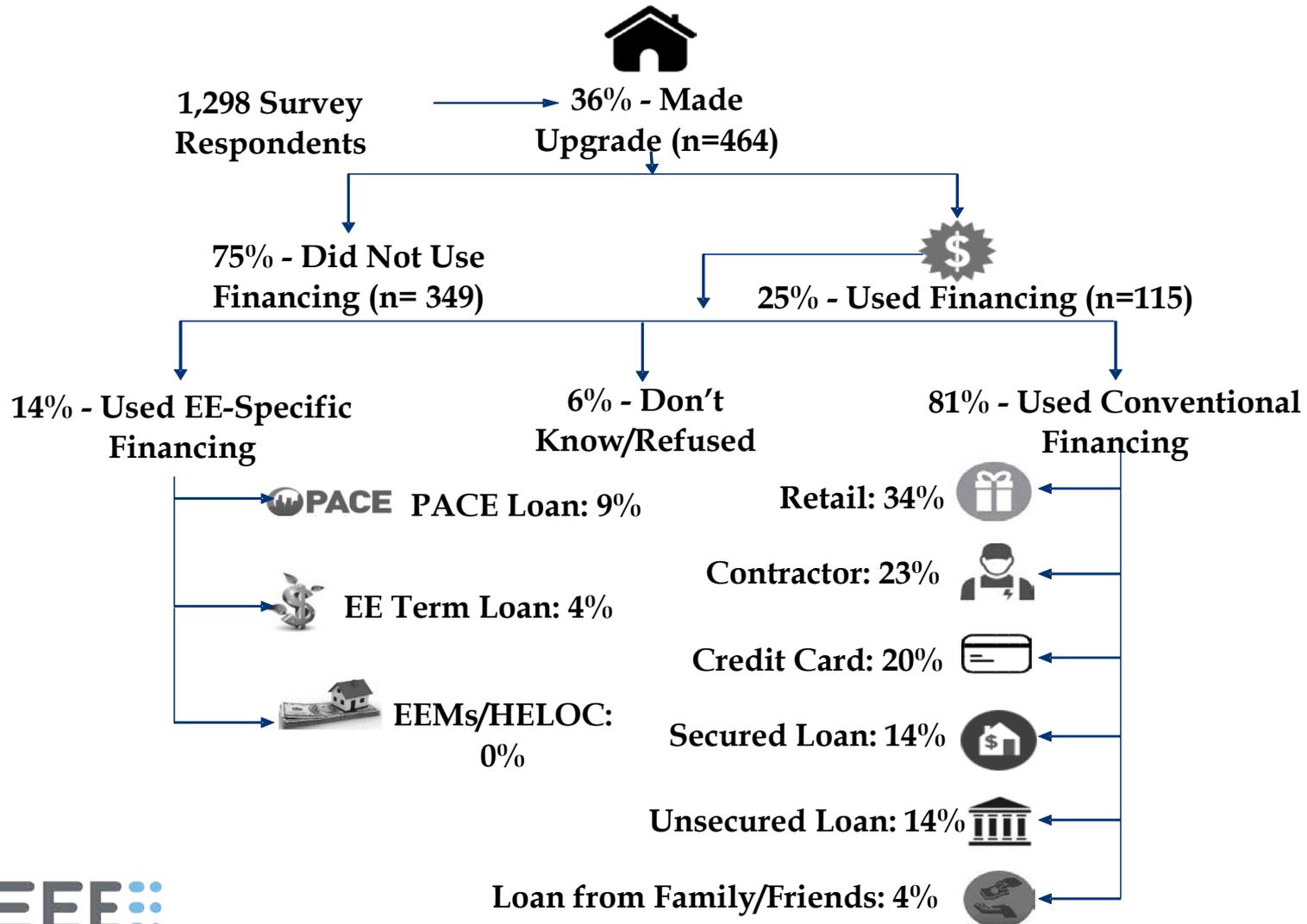
**Brian Stickles**

**ACEEE**



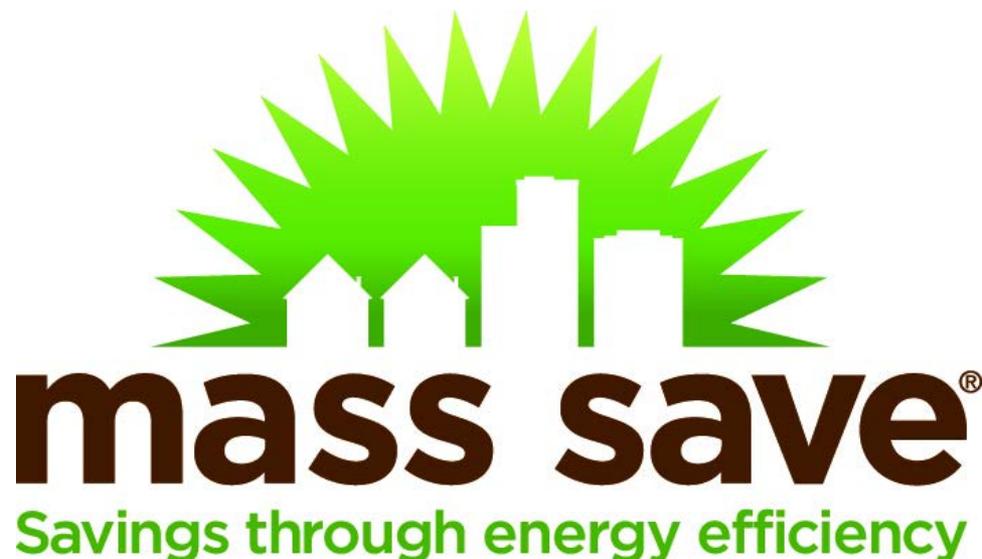
Source: Better Buildings Financing Navigator/Lawrence Berkeley National Laboratory  
<https://betterbuildingssolutioncenter.energy.gov/financing-navigator/explore>

# Residential Financing in Context: California



# Loans & Leases

- Leases: Capital, Operating, Tax-Exempt
- Loans: Unsecured/Secured, Below Market Rate, Public/Private



# On-Bill

- Repayment of upfront costs on the utility bill
- Variations:
  - On Bill Financing
  - On Bill Repayment
  - Tariffed On-Bill



# Property Assessed Clean Energy

- Repayment of upfront costs via tax assessment
- Requires enabling legislation
- Relatively better terms.

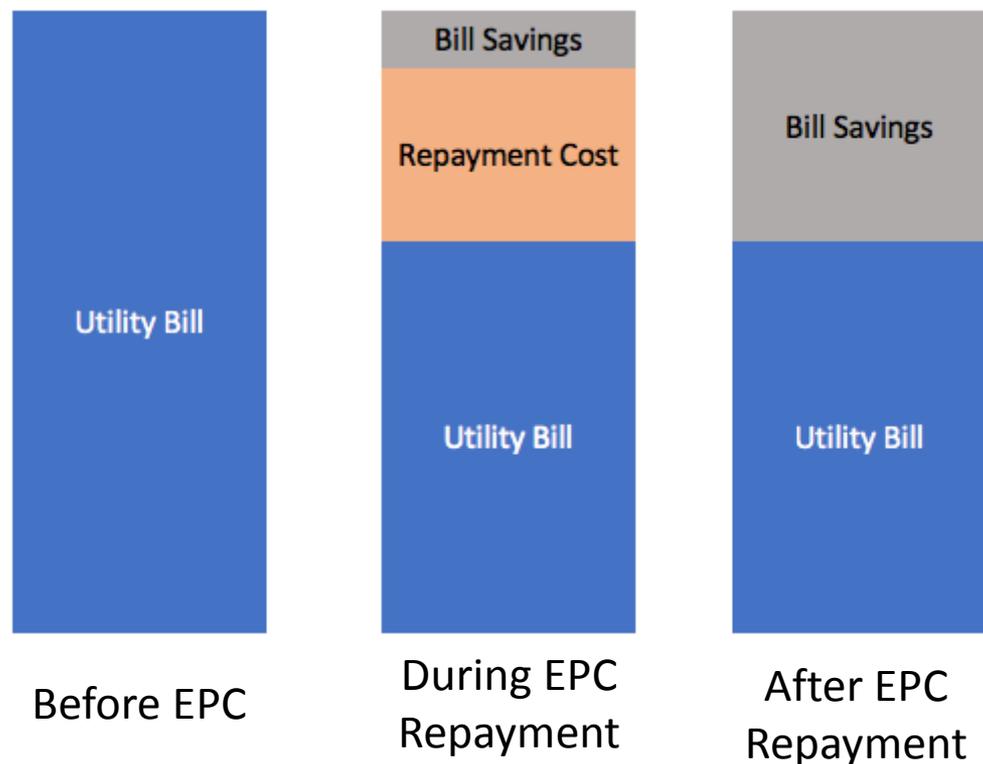


The Phyllis Wheatley Young Women's  
Christian Association

Source: PACENation: <http://pacenation.us/>

# Energy Performance Contracts

- ESCO pays upfront costs & guarantees savings
- Primarily used in MUSH sector



# Energy Service Agreements

- Similar to ESPC
- Recipient pays for negawatt
- Cost of negawatt is  $<$  per unit utility cost



## CASE STUDY: Kuakini Medical Center



**Anmol Vanamali**

**VEIC**

# Market overview for EE (*and some RE*) Finance

Type	Est. Market Size	Notes
C-PACE	\$0.33 Bn (H)	<ul style="list-style-type: none"> <li>19 States + DC have PACE pgms, 33 + DC have enabling legislation</li> </ul>
Residential PACE	> \$3.6 Bn (H)	<ul style="list-style-type: none"> <li>Figures reflect California only but it is by far the largest market</li> </ul>
Loans & Leases	Very large (L)	<ul style="list-style-type: none"> <li>More likely to be a much higher</li> <li>Loans are the underlying instruments behind other financing types which creates further uncertainty</li> <li>Financial Allies have completed around \$1.9 Bn</li> </ul>
ESPCs	~\$22 Bn (M)	<ul style="list-style-type: none"> <li>ESPCs have supported investments of \$45 Bn but only half have used 3<sup>rd</sup> party financing.</li> <li>Typically used for financing large scale Fed/MUSH projects</li> </ul>
ESAs / MESAs	> \$0.1 Bn (L)	<ul style="list-style-type: none"> <li>High uncertainty due to underreporting</li> <li>Possibly the only true off-balance sheet option</li> </ul>
OBF/OBR	> \$1.83 Bn (H)	<ul style="list-style-type: none"> <li>\$0.8 Bn is in commercial sector and the rest in residential</li> </ul>

# Challenges facing EE Finance market

- Low energy costs
- Political uncertainty
- Utility model disruption
- Skimming

# What the future holds for EE Finance?

- Mainstreaming
- PPPs (E.g. Green Banks)
- Efficiency as a Service (EaaS) or Pay for Performance models
- Data analytics

# Resources

- ACEEE Financing Toolkit:  
<http://aceee.org/sector/state-policy/toolkit/financing-energy-efficiency>
- Better Buildings Financing Navigator:  
<https://betterbuildingsolutioncenter.energy.gov/financing-navigator>

## Upcoming ACEEE Conferences

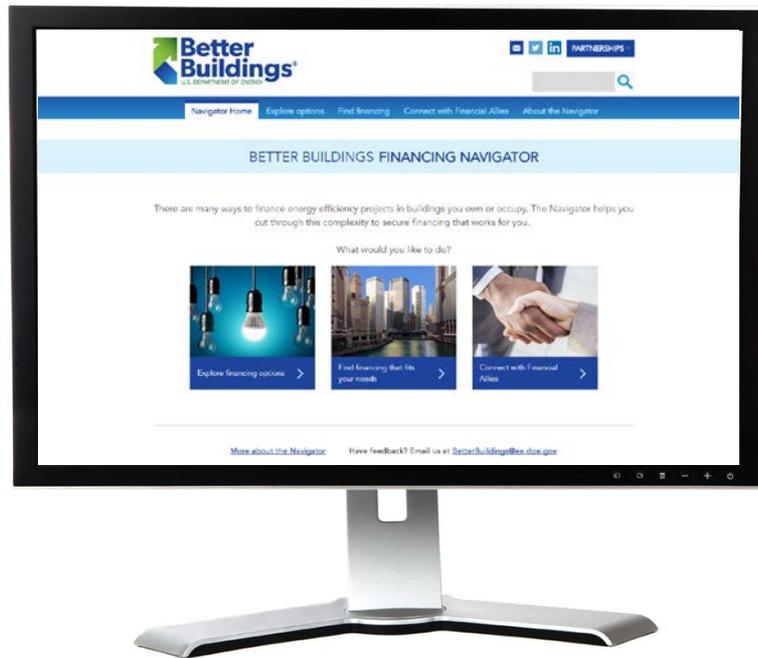
Energy Efficiency Finance Forum	May 21-23	Chicago
Summer Study on Energy Efficiency in Industry	August 15-18	Denver
Behavior, Energy and Climate Change Conference	October 15-18	Sacramento

*The top convener in energy efficiency.*  
[aceee.org/conferences](http://aceee.org/conferences)



# The Better Buildings Financing Navigator

The Navigator is an online tool that helps public and private organizations find financing solutions for energy efficiency projects.



With the Navigator, you can...

1

**Explore:** Learn the basics of the efficiency financing market

2

**Find:** Answer a few simple questions to see which financing options might be a fit for your project

3

**Connect:** Speak to Better Buildings Financial Allies who may be able to finance your project

Now available at: <https://betterbuildingsolutioncenter.energy.gov/financing-navigator>



**Check out the rest of the  
Finance Track!**

Questions?

# Thank You

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