

Better Buildings Summer Webinar Series

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The Dynamic Duo: Unleash Public Sector Energy Savings with Financing and Technical Assistance

July 14, 2020

3:00 – 4:00 pm EDT



Sean Williamson
U.S. Department of Energy

Agenda

1

Opportunities for the Dynamic Duo

2

Small and Medium Facilities and Conventional Financing

3

Efficiency Services Agreements

4

Energy Savings Performance Contracts

5

Q&A Session

Access to Financing + Technical Assistance = Greater Energy Savings

Opportunity

- Access to financing has addressed *financing barriers* and enabled states, local governments, and K-12 school districts to invest **more than \$7 billion**¹ in energy efficiency retrofits with an average of **20% annual energy savings**.²
- To achieve the **next \$10 billion** in public-sector energy efficiency retrofits, let's build on the success of financing products AND address *non-financing barriers* through technical assistance.

Table 1. Financing and Non-Financing Barriers to Completing Energy Efficiency Upgrades

Financing Barriers	Non-Financing Barriers
Upfront Cash	Limited Awareness/Information
Debt Limits	Competing Priorities
Cash Flow	Distrust
Payback Period	Uncertainty of Savings

1. Lawrence Berkeley National Lab (LBNL), 2019. [State of the U.S. ESCO Industry](#). Based on low-end estimate from LBNL/NAESCO database for state, local government, and K-12 facilities only. 2. *Ibid.*

Deep Dive: Small and Medium Public-Sector Facilities



	Government Office	Police Station	Library	K-12 School	Courthouse
Median Size (ft ² per building)	6,000	6,000	11,600	14,400	32,000
Median Age (years)	33	23	34	28	47
Median Operating Hours (hours per week)	45	168	53	45	45
Source Energy Use Intensity (kBTU/ft ²) - National Median Reference Value	116.4	124.9	143.6	104.4	211.4
Estimated Energy Cost (\$/year) ³	6,684	7,172	15,941	14,387	64,739

¹U.S. Department of Energy, Commercial Building Energy Consumption Survey (CBECS), 2012. Tables B7 and C1. See: <https://www.eia.gov/consumption/commercial/reports/2012/preliminary/>.

²The table does not include energy used for exterior lighting, water pumps, or wastewater treatment facilities, which often account for significant energy use across the public sector.

³Blended rate of .00957 \$/kBTU factors in energy consumption from four primary fuels (i.e., electricity, natural gas, residual fuel, district steam) and average national cost per fuel from 2018 Energy Information Administration.

Loans in Nebraska

Dollar and Energy Savings Loan Program

A loan program operated by the Nebraska Department of Environment and Energy and private lending institutions available to local governments, schools, non-profits, and more.

Financing

- ✓ Unsecured loans with below-market interest rates
- ✓ Fixed interest, 30-year terms available
- ✓ Up to \$500,000 available per project
- ✓ Funds available for soft costs including audits and analyses



Technical Assistance

- ✓ Do-It-Yourself Analysis Guidance to estimate project impacts
- ✓ Access to technical advisors (e.g., for K-12 schools)
- ✓ Pre-qualified measures list to reduce uncertainty

Program Impacts

- ✓ 1000+ loans to the public-sector since 1990
- ✓ Participation from over 250 lenders across the state

Leasing in Virginia

Energy Leasing Program

A master leasing program managed by the Virginia Treasury available for Commonwealth agencies. The program interfaces with performance contracting technical assistance offered by Virginia's Department of Mines, Minerals and Energy.

Financing

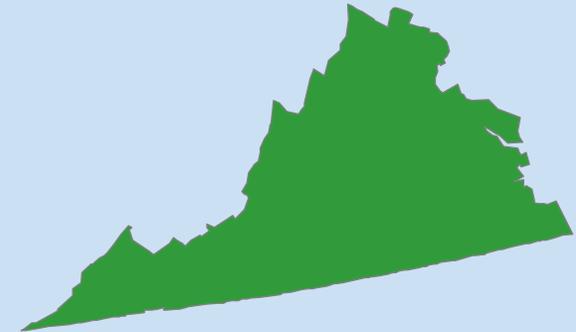
- ✓ Below-market rate, tax-exempt leases (currently <1.5%)
- ✓ Available for projects with and without a performance contract
- ✓ Financing available for 12- and 15-year terms
- ✓ Cost-effective energy efficiency improvements qualify

Technical Assistance

- ✓ Access to in-person consultations and technical reviews
- ✓ Back-of-the-envelope audits offered as screening for performance contracting
- ✓ Pre-qualified ESCOs and successful case studies are available

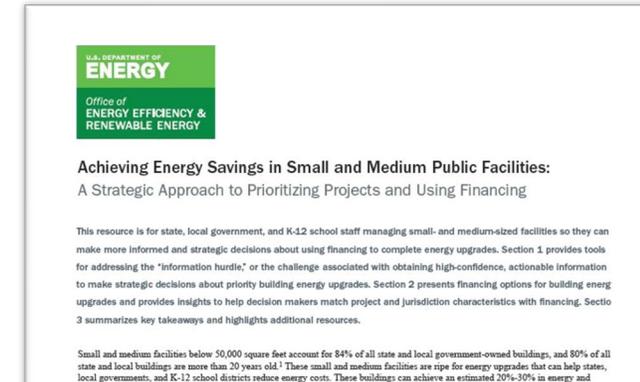
Program Impacts

- ✓ Many of the 260 ESPC projects completed since 2001 have leveraged the leasing program
- ✓ Technical assistance diffuses distrust and provides legitimacy to financing options



DOE Resources

- **Achieving Energy Savings in Small and Medium Public Facilities: A Strategic Approach to Prioritizing Projects and Using Financing** (forthcoming)
 - *Designed to help public-sector leaders make strategic planning decisions and build the case for using sophisticated financing approaches.*
- **ESPC Guide for Small Projects** (forthcoming)
 - *A how-to guide for using ESPC in small projects.*
- **[Better Buildings Financing Navigator 2.0](#)**
 - *Includes a Primer on Public Sector Energy Financing and additional resources for navigating financing options.*

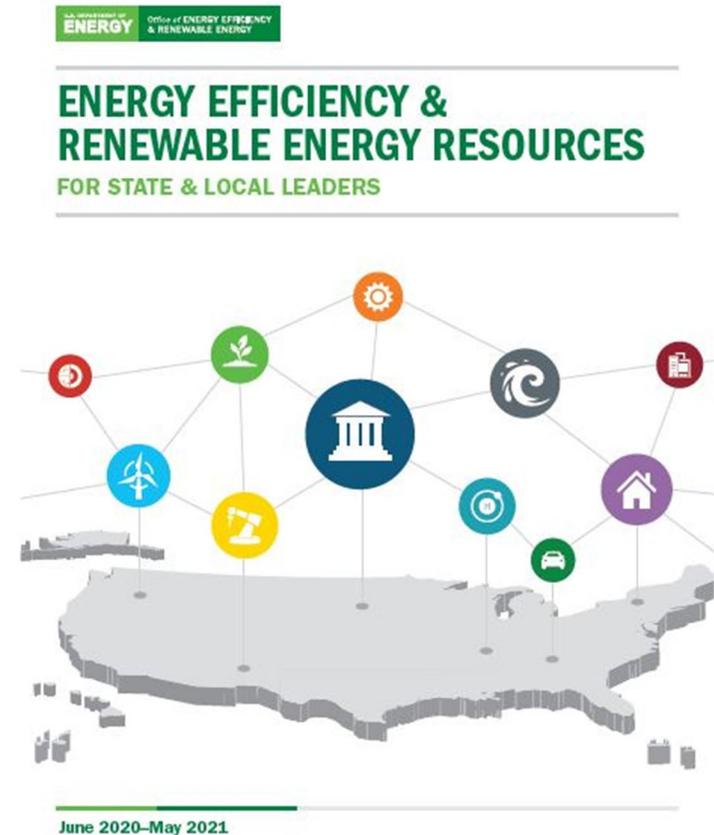


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- **State and Local Solution Center:**
<http://energy.gov/eere/slsc>
 - More than **400** tools, resources, and best practices
- **State and Local Spotlight:**
<http://energy.gov/slsc/subscribe>
 - Monthly newsletter with **~33,000** subscribers

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[Energy Efficiency and Renewable Energy Resources for State and Local Leaders](#)

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using your mobile device, or by opening a new window

Enter Event Code

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Today's Presenters



Dale Hahs
Energy Services Coalition



Anastasia Beckett
Metrus Energy



Anastasia Beckett
Metrus Energy

Submit Questions
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Delivering Efficiency
as a Service:
The Metrus ESA

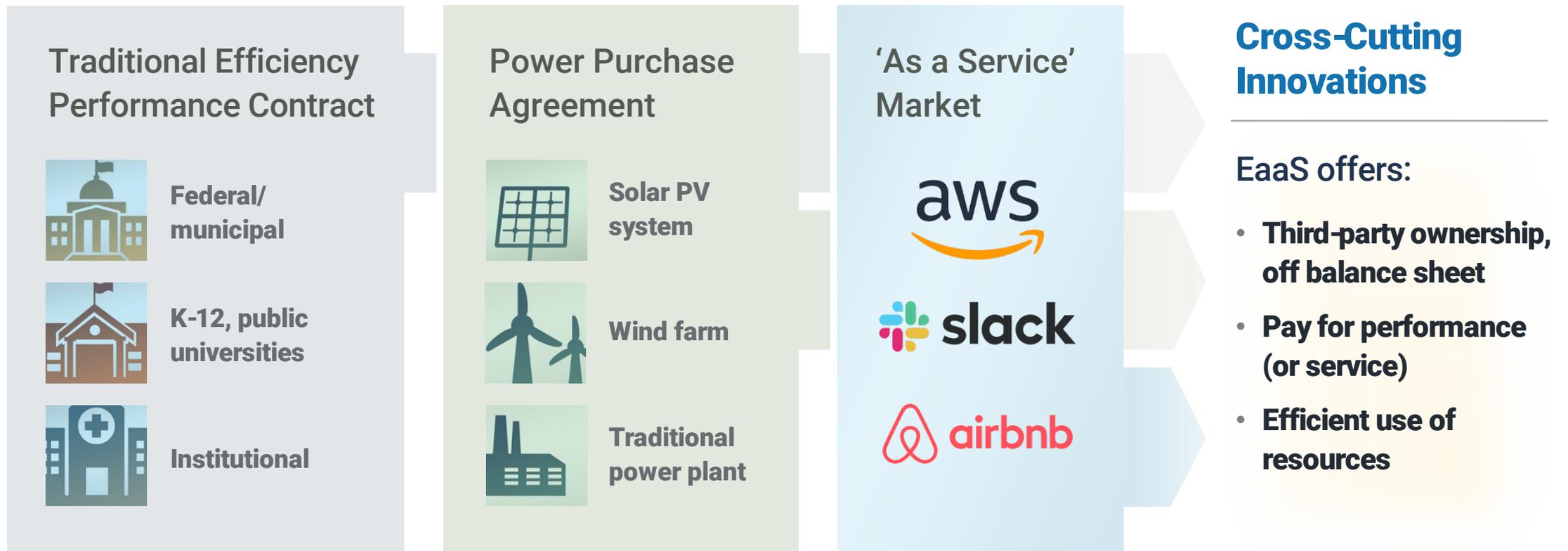
July 14, 2020

Overview

- **Metrus develops, finances, owns, and operates large-scale efficiency projects. Customers include colleges, hospitals, Fortune 500 companies, and Public Sector.**
- **Metrus partners with leading ESCOs, contractors, and lenders.**
- **Metrus sells efficiency as a service (EaaS) through our Efficiency Services Agreement (ESA).**
- **Metrus has operational energy and water efficiency projects in 26 different states, resulting in savings of over 1.5 billion kWh.**
- **Simply put - we help customers monetize assets, upgrade equipment and reach sustainability goals.**



The Evolution of Efficiency as a Service (EaaS)



Key Customer Benefits

FINANCIAL

- **No capital outlay**
- **Preservation of debt capacity**
- **Immediate positive cash flow from energy and water savings**
- **Customers only pay for realized savings**
- **Metrus has vested interest in project performance and pricing**
- **Incorporate all available utility incentives**

OPERATIONAL

- **Turnkey approach with ongoing project management**
- **Key equipment upgrades that increase resiliency and reliability**
- **Improved efficiency of building operations and systems**
- **Ongoing maintenance and monitoring**
- **Flexibility to add new upgrades**

Project Contracts

Efficiency Services Agreement (ESA)

Metrus funds 100% of project cost, takes title to equipment, and pays for ongoing maintenance and monitoring. Customer pays service charge for realized savings.



Efficiency Services Performance Contract (ESPC)

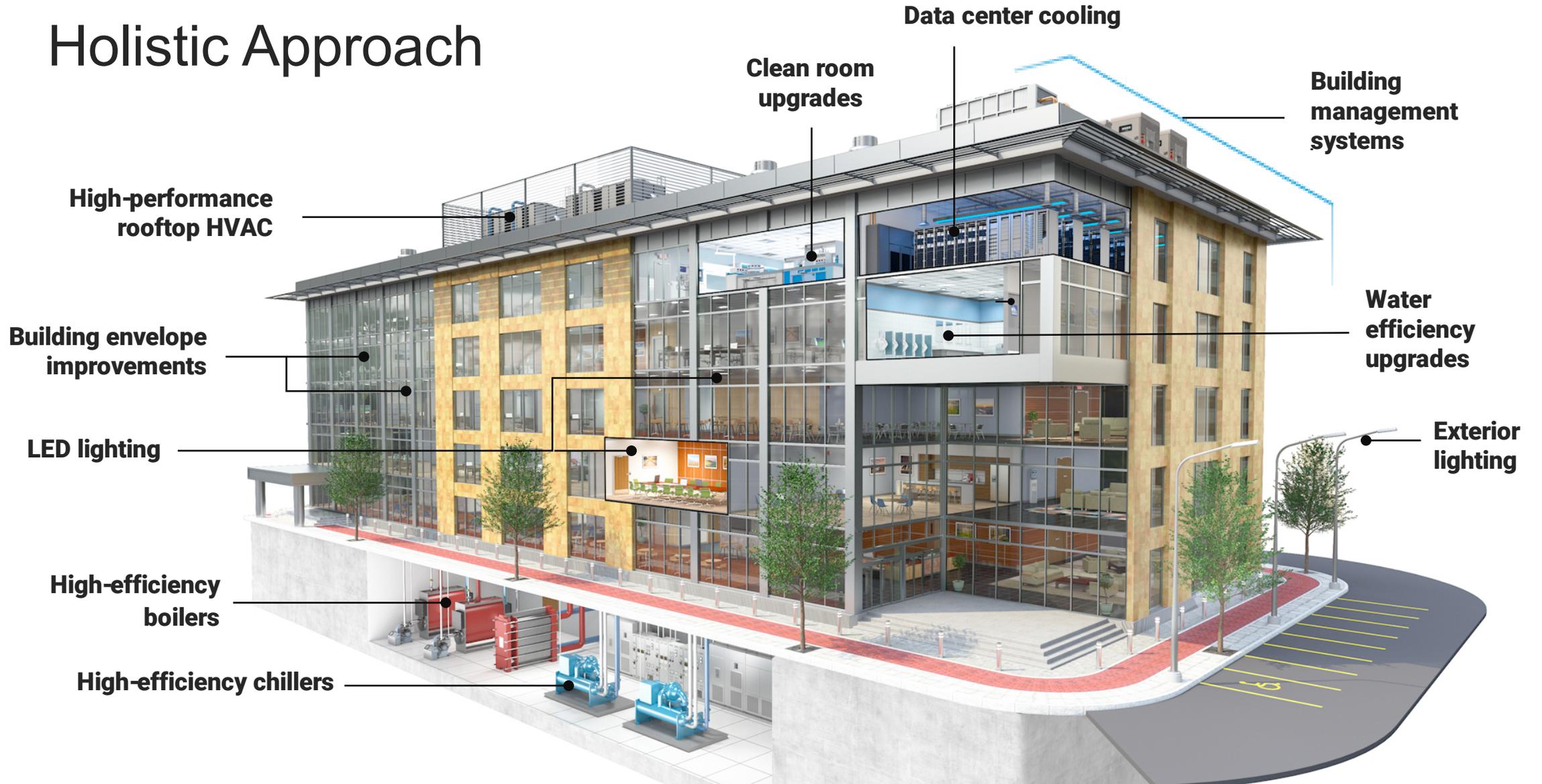
~~ESCO (contractor)~~ designs project, installs efficiency equipment, and provides long-term maintenance and monitoring services.

Typical Project Profile

- **Integrated energy and water efficiency retrofits**
- **May include solar, battery storage, EV charging**
- **Project size is generally \$1 million to \$30 million**
- **Upgrades from different facilities are bundled into a single project**
- **ESA project term is generally 7 to 15 years (20-year term is possible)**



Holistic Approach



Planning a Project – What to Consider?

FINANCIAL

- **Do you want to use debt capacity or do you want a services agreement?**
- **Is off-balance sheet financing important?**
- **What utility escalation rate is appropriate? If any?**
- **Does the financing party charge a fee?**
- **Performance guarantee – can the ESCO afford to pay it?**
- **Is pricing transparent? For financing and construction materials?**

OPERATIONAL

- **Bundling equipment – low hanging fruit like LED lighting helps pay for more expensive equipment.**
- **Do you want to perform ongoing Maintenance and Operations or do you want a third-party provider to perform that scope of work?**
- **Do you need to go to RFP for both finance and construction or just one or the other?**

Contact

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Development**

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CASE STUDY

Bristol Hospital

- LED lighting retrofit
- Energy management system
- Power factor correction
- Steam trap replacements
- HVAC and AHU replacement
- Water efficiency

Total investment:

\$4.2

Million

Total annual savings:

\$525,000

Annual CO₂ savings:

1,320

Tons



Dale Hahs

Energy Services Coalition

Submit Questions

www.slido.com event code **#DOE**



The Dynamic Duo: Financing and Technical Assistance to Unleash Energy Savings in the Public Sector



Dale L. Hahs

Energy Services Coalition
dhahs@energyservicescoalition.org

July 14, 2020

3:00 – 4:00 PM EDT



The Energy Services Coalition (ESC)

is a national nonprofit organization composed of a network of experts from a wide range of organizations working together at the state and local level to increase energy efficiency and building upgrades through **G**uaranteed **E**nergy **S**avings **P**erformance **C**ontracting.

<https://energyservicescoalition.org/>

Local chapters; public and private sector individuals coming together to provide outreach and education.

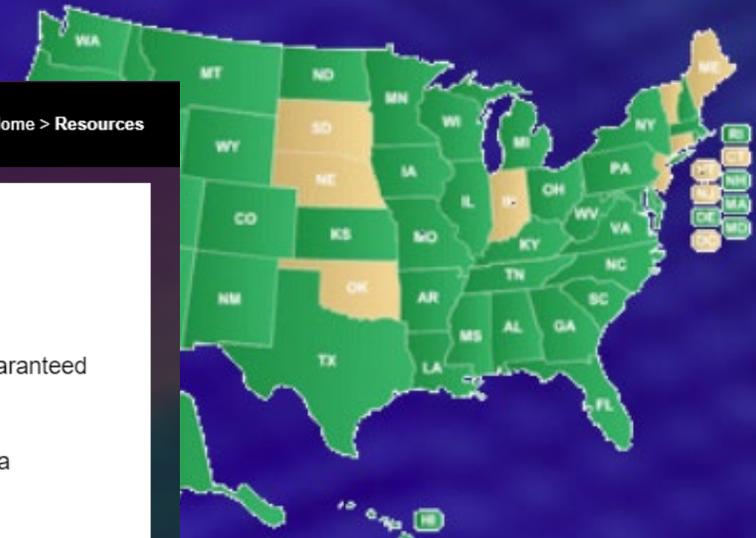
RESOURCES

Resources Overview

Here you will find all the Resources ESC has to offer:

- [Energy Stewardship Champions](#) – States recognized by ESC as stewardship champions (2016 and 2017) for their Guaranteed Energy Savings Performance Contracting (GESPC) programmatic design, leadership, and investments.
- [ESC State Chapter Playbook](#) - The Chapter Playbook outlines approaches from around the country of how to operate a successful state ESC Chapter in support of a statewide public program to increase GESPC activity in a state.

Race to the Top - GESPC Map



What's in a Name?



ESPC = ENERGY SAVINGS PERFORMANCE CONTRACT

MEETS = Metered Energy Efficiency Transaction Structure

GESA = Guaranteed Energy Savings Agreement

EPC = Energy Performance Contract

ESA = Energy Services Agreement

ENERGY SERVICES PERFORMANCE CONTRACT

SAAS = Savings as a Service

MESA = Managed Energy Services Agreement

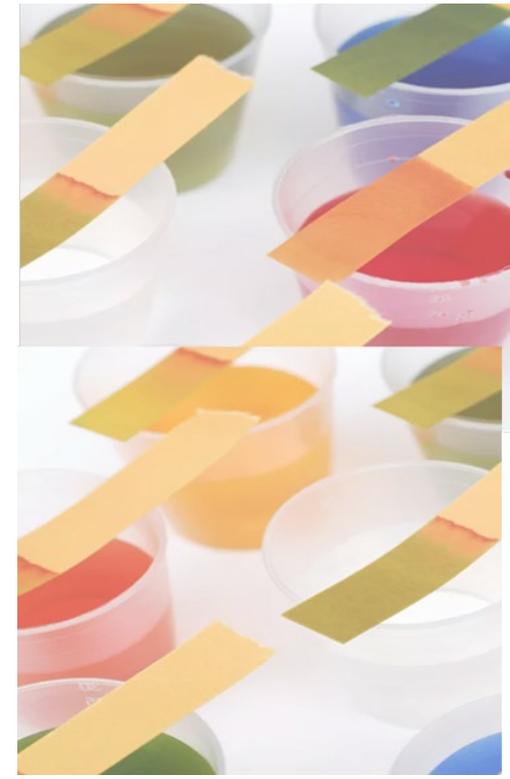
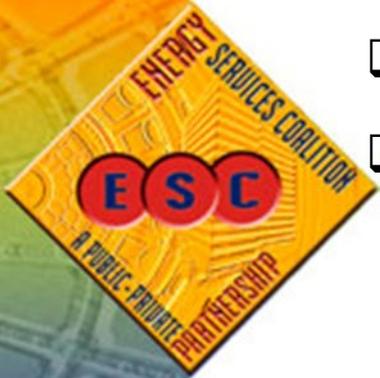
SSA = Shared Savings Agreement

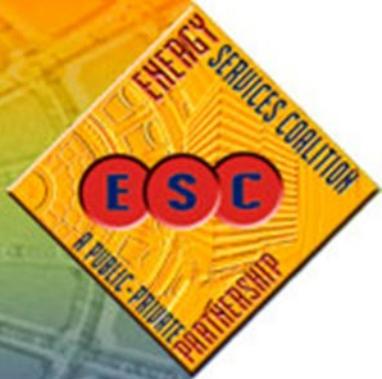
PC = Performance Contract

GESPC = Guaranteed Energy Savings Performance Contract

Public / Private

- What statute(s) defines the transaction?
- What means of public procurement is required?
- Who owns the improvements?
 - title to
 - lien on
 - security interest in
- Who holds the risk of performance?
 - What can the owner do that puts the guarantee in jeopardy?
 - What can the provider do that puts the guarantee in jeopardy?
- Is the upfront financing debt?
 - Is there an offsetting reduction in planned cost?
 - Is it guaranteed?
- Is a non-appropriation clause included?
 - [\(an internet definition of non-appropriation and impact\)](#)
- Whose process should I follow?
- Whose contract(s) should I use?
- What are the means, terms and conditions of termination?





“The use of **guaranteed** savings from the maintenance and operations budget (utilities) as capital to make needed upgrades and modernizations to your building environmental systems, financed over a specified period of time.” -United States Department of Energy

A legislatively empowered, budget neutral means of procurement that repays the original investment from the savings which are guaranteed to accrue from project results.

-Public Domain

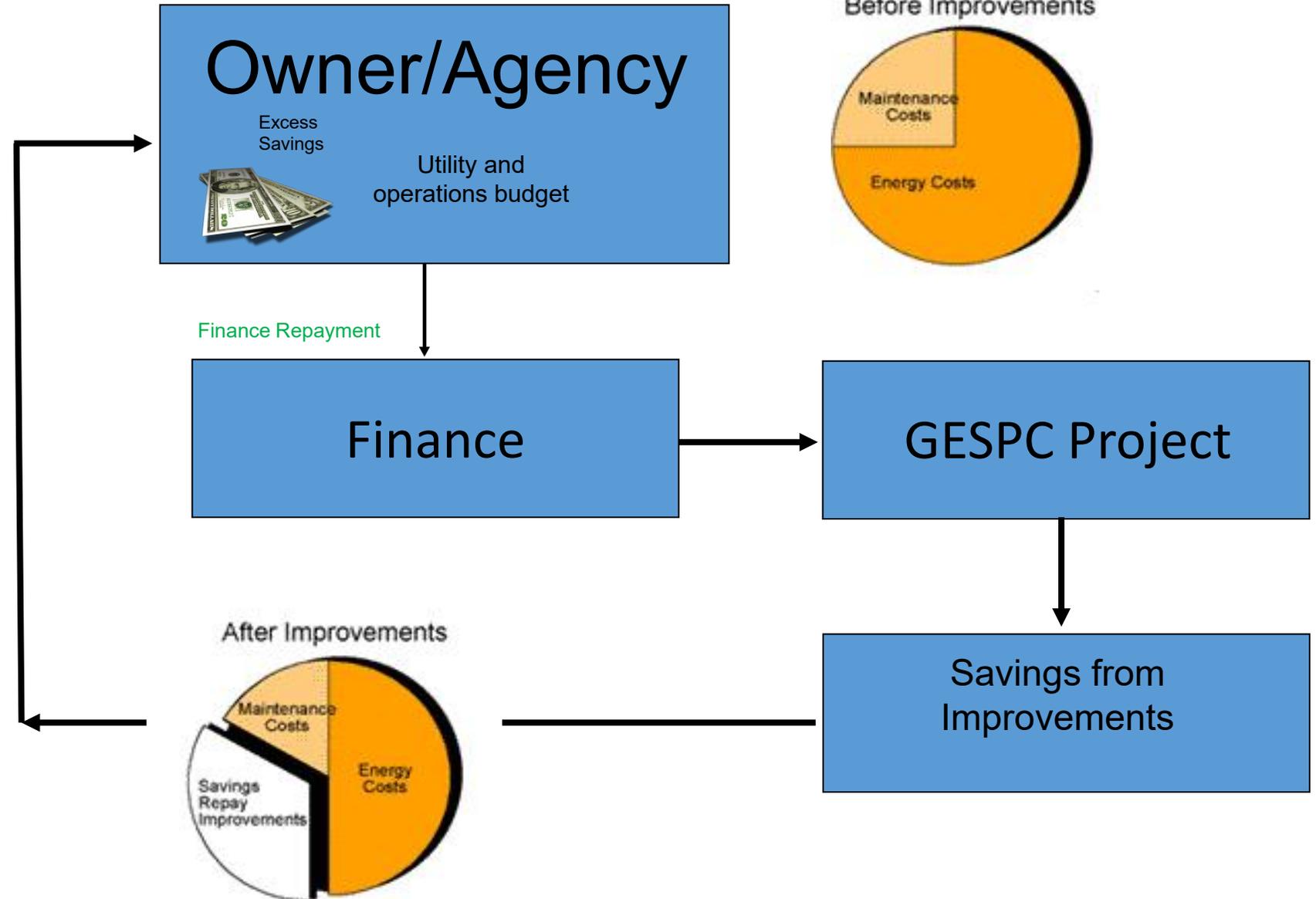
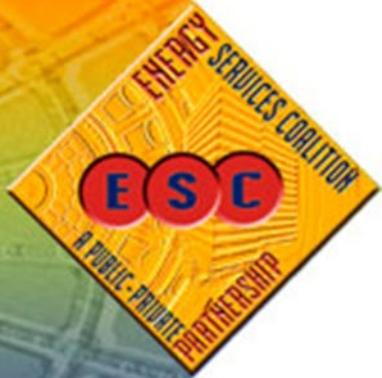
Performance contracting is a means of raising money for investments in energy efficiency that is based on future savings. It enables money that will be saved as a result of the introduction of a new energy-efficient technology to be used to offset the cost of financing, installing, maintaining and operating that technology. By definition, the future savings must be greater than the costs.

- International Institute for Sustainable Development

A debt free modernization of facilities and system infrastructure by a single source provider built to or in excess of site specific standards, following processes and industry best practices at a reasonable price and profit with a proof of performance and a guarantee of savings.

- A Utopian Perspective; this author

How the money moves





If you are an engineer with a law degree trained in the rules of procurement, construction management and negotiation, with a minor in finance and accounting, this will be a cinch!!



Assembling a GESPC Team



APPROVING AUTHORITIES

You need these folk fully bought in and supportive of the rigor the team will provide to help mitigate risk and see that you get what you set out to achieve

OVERSIGHT

This role is becoming far more common. Provide experience, insight and education along every step of the way

CONSTRUCTION

Require that these projects meet or exceed your quality standards and BAU documentation and process. Assist with witnessing, approvals and invoice review

MAINTENANCE

Know whats needed, where the challenges are today and what will be required of you future to maintain guarantee and savings

ENERGY FOLK

Typically the ringleader or champion for the concept. Required to help assemble needed resources, tools, topical expertise

LEGAL

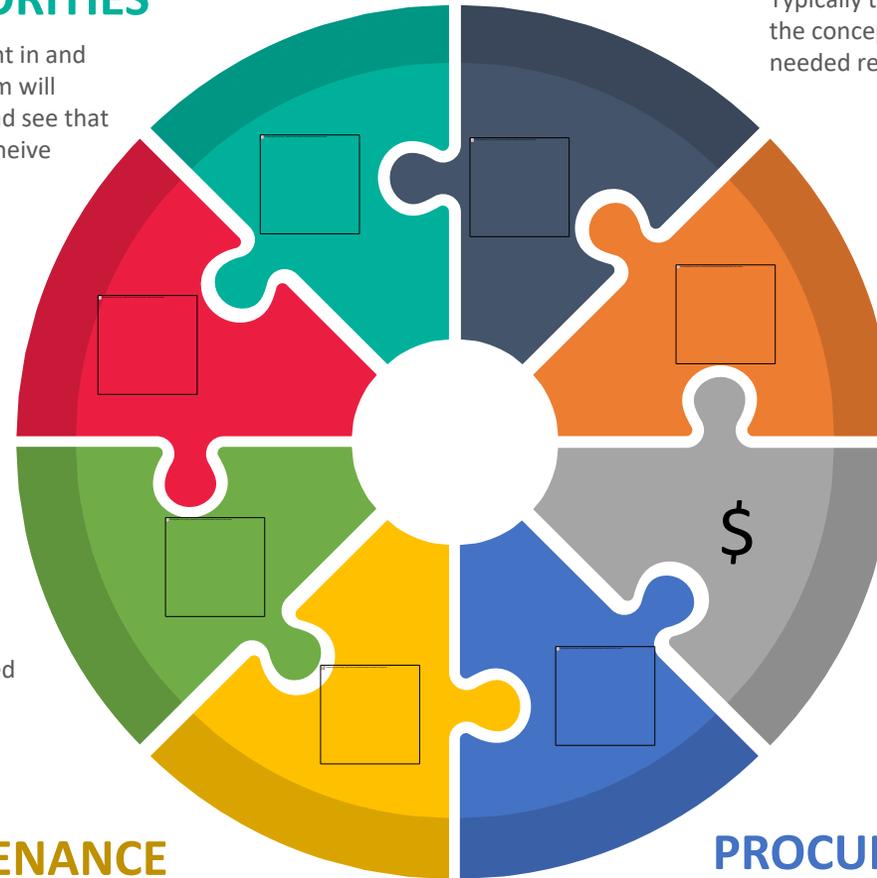
Customize documents, review all ESCO provided input to ensure compliance and avoid contradictions.

FINANCE

Know how the money moves from operating cost to note repayment and how to manage incentives or other revenues. Commit to full term budgeting

PROCUREMENT

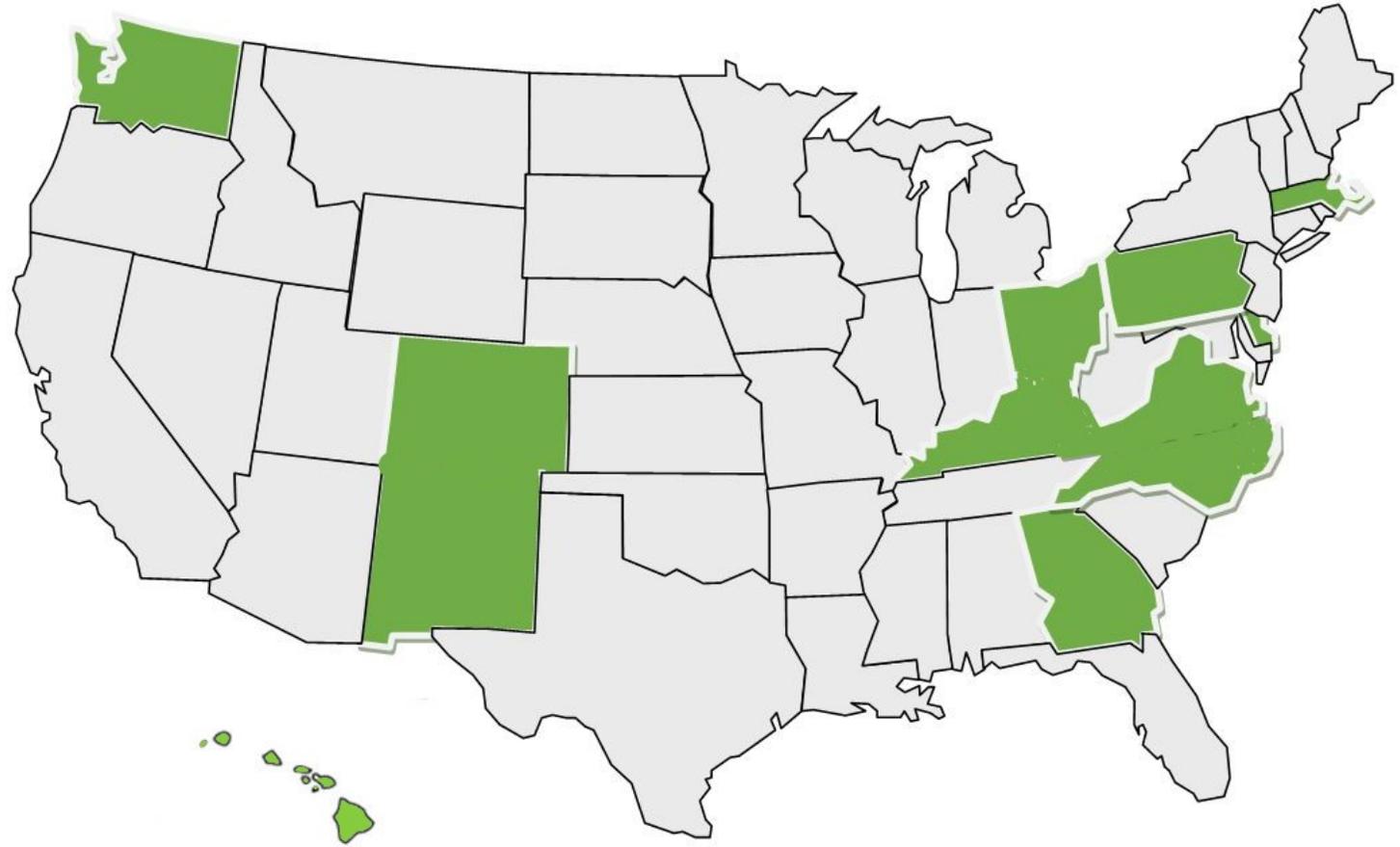
Ensure a competitive procurement. Generally this is two step; first for prequalified providers and later for each project



Energy Stewardship Champions



- State Energy Office Leadership
- Strong Legislative and Gubernatorial Support
- Consensus Support for State Decision Makers
- ESC State Chapter or Similar Stakeholder Group
- Pre-qualified providers (ESCOs)
- Pre-approved Contracts
- **Project Oversight and Technical Assistance**
- Education and Outreach
- Program Funding
- Success Tracking

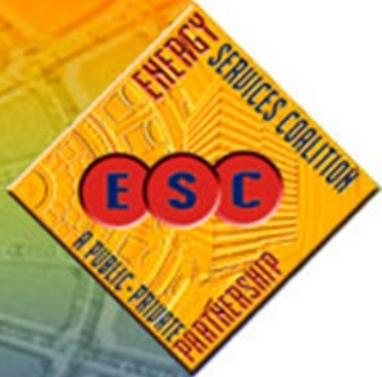


Colorado, Delaware, Georgia, Hawaii, Kentucky, Massachusetts, New Mexico, North Carolina, Ohio, Pennsylvania, Virginia, and Washington.

[State Needs Assessment Analysis](#)

[State Funding of Technical Assistance for GESPC](#)

Some ESC resources



A public sector portal for technical assistance!

<http://forums.energyservicescoalition.org/>

Forum

Blog

Guidelines

Welcome to the GESPC Online Community!!!

We're really glad you're here. We're even happier that you want to share your thoughts, experiences, concerns, solutions and successes with us, and the rest of our community. This community is comprised of public sector employees with a wide variety, and level, of experiences with Guaranteed Energy Savings Performance Contracting. [The Guidelines](#) are offered to help you and the rest of community get the most benefit out of your participation in the GESPC Online Community.

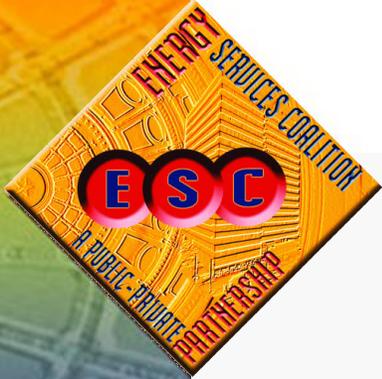
In Short:

- Be a good community member: Interact, connect, comment, and ask questions. Above all else, please treat each member with respect at all times.
- Stay on topic: It is the goal of this community to provide a unique forum to share experiences with the GESPC process, and address and overcome challenges that may impede the uptake of GESPC for potential end-users. We ask that our members keep their comments focused and on topic, according to each post or thread. This helps facilitate the best, most productive conversations.
- Know the rules: Your participation on the GESPC Online Community is subject to the [Guidelines outlined here](#). If you don't follow the rules -- you risk having your account privileges being suspended.

Instructions for use:

- Select any one of the Forums below by simply clicking on it's topic
 - That gives you access to any of the threads within the Forum. You may comment or pose questions or create a new thread within that Forum
 - Forums are initiated by email request to info@energyservicescoalition.org
- Subscribe to receive an email notification of activity within the thread or within the Forum

Some ESC resources



A public sector portal for technical assistance!

<http://forums.energyservicescoalition.org/>

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Podcasts

Welcome to GESPC-U, the university of all things Guaranteed Energy Savings. The United States Department of Energy, is part of a series of topics taking a deep look at the savings performance contracting process. Most of the guidance provided is presented by the Energy Services Coalition and sponsored by the United States Department of Energy. Second, on many different levels, of the guaranteed energy savings performance contracting process. Most of the guidance provided is presented by the Energy Services Coalition and sponsored by the United States Department of Energy. You can find more GESPC documents found on the Energy Services Coalition website at <https://energyservicescoalition.org/model-instrumentation>.

This Week's Featured Podcast:

Episode 14:



Remember, you are already committed to spending this money, either as an operating expense, or as an infrastructure investment.

Investments reduce deferred maintenance and waste, puts people to work, saves energy and our environment.

*Thank
you*



What do you need (e.g., technical assistance support) to be able to use financing to complete efficiency upgrades in your jurisdiction's facilities?

Please go to www.slido.com and enter code #DOE to respond

Q & A

Submit Questions
www.slido.com event code **#DOE**

Additional Resources

- Better Buildings Financing Navigator: <https://betterbuildingsolutioncenter.energy.gov/financing-navigator>
- State and Local Solution Center: <https://www.energy.gov/eere/slsc/state-and-local-solution-center>

Better Buildings: Summer Webinar Series



**BEHIND THE METER
DISTRIBUTED ENERGY
RESOURCES:**
BEST PRACTICES FOR INTEGRATING
DERS INTO COMMERCIAL BUILDINGS

July 8



**NEXT-GENERATION BUILDING
PERFORMANCE POLICIES:**
MAXIMIZING ENERGY SAVINGS AND
ENVIRONMENTAL IMPACTS

July 16

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**EVERYONE HAS A
DATA CENTER:**
HOW TO BE AN ENERGY
CHAMPION FOR YOURS

July 28

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**PROGRAM DESIGN WITH
EVERYONE IN MIND:**
LOW-INCOME SOLAR
PROGRAM STRATEGIES

July 9



**STRATEGIES TO COMBINE
ENERGY + HEALTH UPGRADES
IN MULTIFAMILY HOUSING**

July 21

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**SUCCEED WITH
SUBMETERING:**
HOW TO MAKE THE BUSINESS CASE

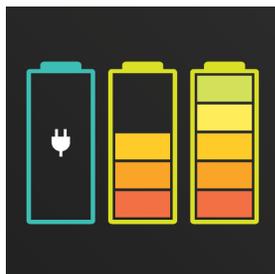
August 4

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THE DYNAMIC DUO:
UNLEASH PUBLIC SECTOR ENERGY
SAVINGS WITH FINANCING AND
TECHNICAL ASSISTANCE

July 14



CASE IN POINT:
OREGON'S RECENT EFFORTS TO
REDUCE PLUG LOAD ENERGY
CONSUMPTION

July 22

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NEXT-GENERATION BUILDING PERFORMANCE POLICIES:

MAXIMIZING ENERGY SAVINGS AND
ENVIRONMENTAL IMPACTS

Thursday, July 16, 2020 | 1:00 - 2:00 PM ET

[REGISTER TODAY >](#)

Cities are deploying the next generation of building performance policies to maximize energy savings in buildings and meet their energy and environmental goals. Hear from leading cities regarding their strategies for policy design, implementation challenges and successes, and early policy impacts.



E-Learning Center

Discover online training and education opportunities from the U.S. Department of Energy (DOE) and Better Buildings Affiliates who are working with DOE to promote energy efficiency in U.S. buildings and manufacturing plants.

Learn more at: <https://betterbuildingsolutioncenter.energy.gov/e-learning-center>

Additional Questions?

Please Contact Us



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