



# SCEP

STATE & COMMUNITY ENERGY PROGRAMS

# Intro to ESPC: A High Value Tool for Public Agencies

June 25, 2024

*A copy of the slides from today's presentation will be provided to you for reference.*



[www.energyservicescoalition.org](http://www.energyservicescoalition.org)

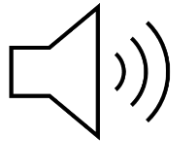




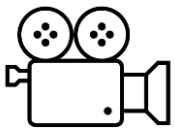
# Virtual Housekeeping



Drop your questions in the Q&A box – or raise your hand at the



Unmute your microphone to ask questions or join the conversation



A recording of this training (minus the Q&A) will be posted online



# Speakers



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# Agenda

**Learning Objective:** This training will be an introduction to ESPC, and will highlight the benefits of using ESPC, explore how state and local governments can facilitate these investments, introduce how facility managers can begin the process of enhancing their facility's energy performance through ESPC, and share some best practices.

- Introductions
- What is ESPC?
- Getting Started with ESPC and Leveraging Available Resources
- ESPC Best Practices
- Resources
- Closing Thoughts and Next Steps
- Questions and Discussion



***This symbol indicates that more information on this topic will be featured in future trainings.***

*Designed by Freepik*



**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 **E**nergy **S**avings **P**erformance **C**ontracting.

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



# About Energy Savings Performance Contracting (ESPC)



# What is ESPC?

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 - 1999

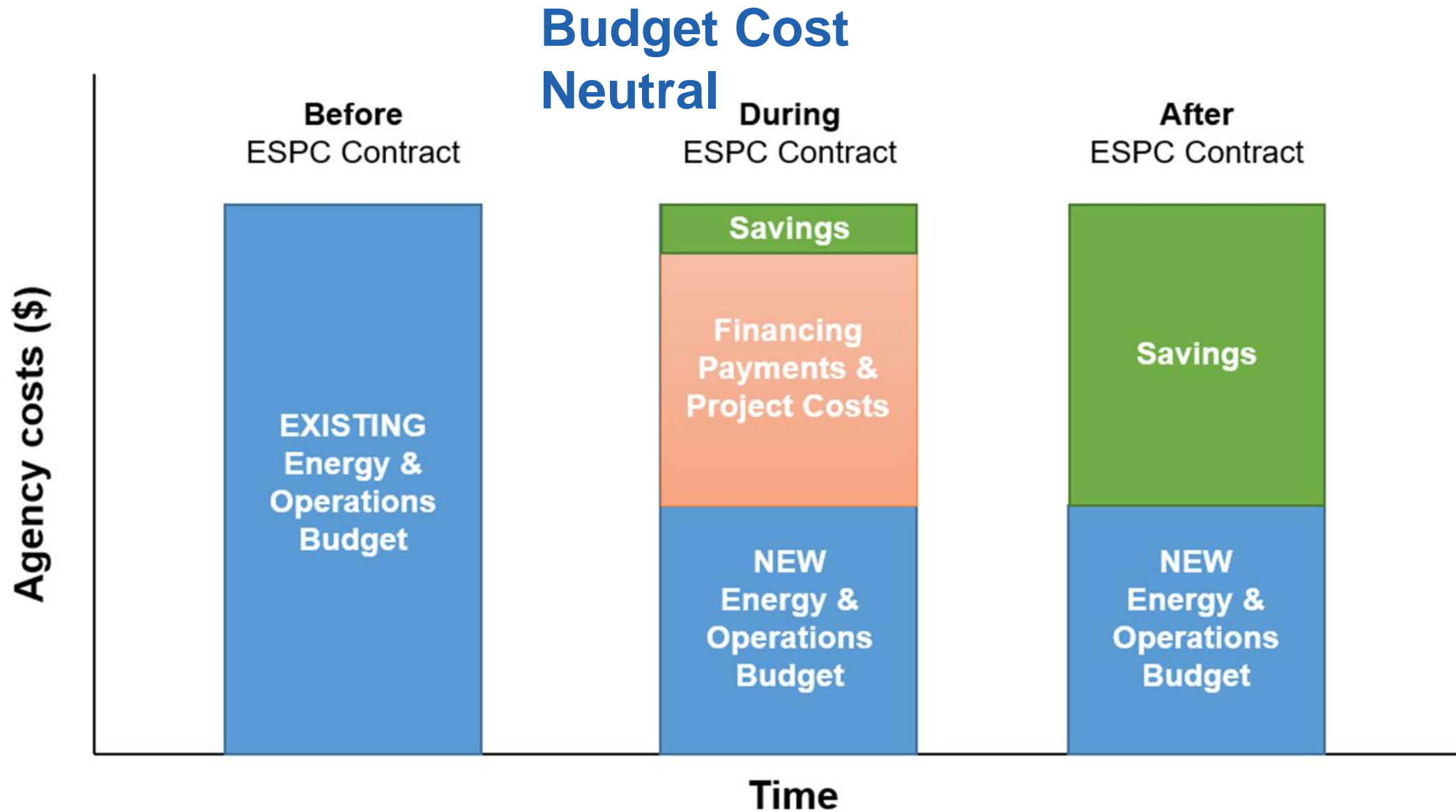
“ESPC is a financial mechanism used to pay for today’s facility upgrades with tomorrow's energy savings – without tapping your organization’s capital budget. Done properly, it has the performance of a hedge fund, with the risk of a T-bill.”

- Chris Halpin - seems like every day

A version of **design-build** contracting, with a focus on guaranteed energy savings.



# What is ESPC?





# Why ESPC?



- Lacking available capital
- Failing facility and system infrastructure
- Hedge rising energy costs
- Meet energy reduction goals
- Support decarbonization
- Create local jobs
- Improve resilience
- Strengthen critical assets
- Leveraging for maximum value
- Integrate IoT into facilities



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# Features and Benefits



- Investment Grade Audits of buildings and systems
- Turn-key installation
- Guaranteed Energy Savings, hedge against future price increases
- ESPC can mitigate risks using [Risk/Responsibility/Performance Matrix](#)
- Open-book pricing to ensure cost-reasonableness
- Waste in Energy Budget is Funding Source for Public Agencies
- Reallocate current spending, not necessarily add debt
- Energy savings and dollar savings can be reallocated to:
  - New energy-related infrastructure
    - (HVAC, building envelope, building automation, lighting, solar PV, battery storage, EV fleet conversion, etc.)
  - Project financing costs
  - Non-energy facility enhancements
  - Sustainability projects



# Getting Started with ESPC



# The Five Phases of ESPC



## Phase 1 - Pre-Qual/ Planning

- Identify a sample of facilities for ESPC.
- **Hire an Owner's Rep** to perform Phase 1 assessment.
- Phase 1 ECMs rough order of magnitude (cost/savings w/ financials)
- Present findings to Agency - financial feasibility of ESPC.
- Stakeholders move to RFP development.

## Phase 2 - RFP & ESCO Selection

- **Develop RFP.**
- Release RFP to pre-qualified list of ESCOs.
- Evaluate proposals - down-select ESCOs.
- Interview ESCO finalists.
- Agency scores and selects winning ESCO.

## Phase 3 - IGA Development

- Negotiate IGA Agreement w/ ESCO walk away fee.
- **ESCO develops IGA w/ interim milestones.**
- **ESCO and Agency develop ESA.**
- ESCO presents final IGA Report and ESA.
- Agency reviews and executes ESA.
- **Agency selects lender - financial close.**

## Phase 4 - Implementation

- Construction kick off / mobilization.
- ESCO completes engineering design.
- Install ECMs.
- **Cx of ECMs.**
- **Post-install M&V activities.**
- Owner inspections and ESCO punch list.
- O&M/as-builts/final Cx report - close out package.
- Project acceptance.

## Phase 5 - Performance Period

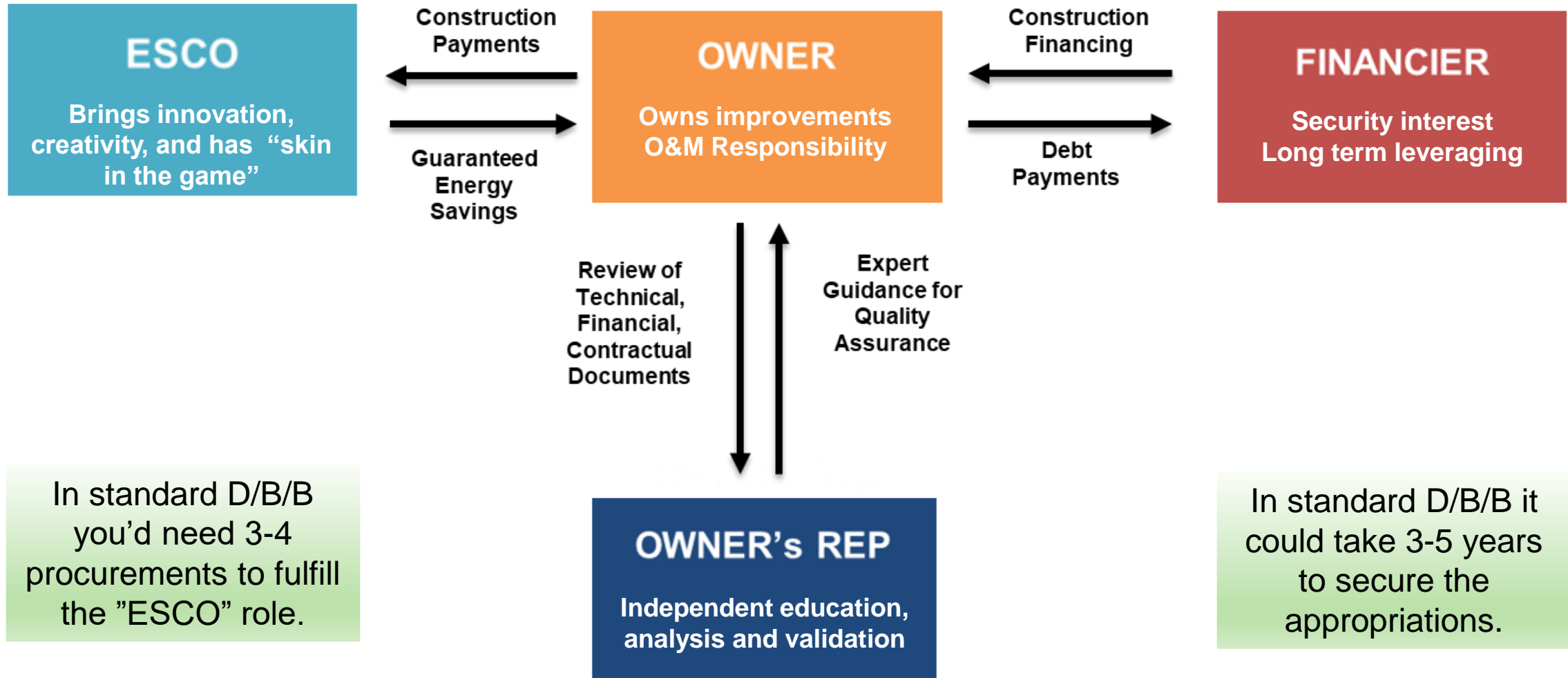
- Agency begins loan repayment.
- ESCO performs quarterly and annual M&V activities.
- On-site visits performed for ECM inspection and/or measurement.
- **ESCO annual M&V report on verified savings.**
- Agency reviews annual report.



# Roles and Responsibilities



Different, and better roles and responsibilities than in standard Design/Bid/Build (DBB)







- What is M&V? Measurement and Verification (M&V) is the **process** of determining savings in a Performance Contract
  - Measurement of Performance
  - Verification of Savings
- The bank wants its money whether you achieve the savings or not, so it's important you have a robust M&V process (*Just like when your teenager wrecks your car, you still must make the payments. )*
- **Most problems in ESPC projects are due to bad M&V**
- Energy Savings and Energy Cost Savings, when defined in a Performance Contract, are contractual terms
- M&V Plan fundamentally defines the meaning of the word “savings” for each project and the contract
- Project specific M&V plans are developed during the detailed Investment Grade Audit
- **M&V Plan determines “contractual savings”, instead of “actual savings” you may want to see on the bills**

Energy Savings Performance Contracting for State and Local Governments: Strategies for Successful Measurement and Verification of Savings



# Work with State Energy Offices to Facilitate ESPC Projects

- ~45 states have [ESPC enabling legislation](#). This legislation allows state and local government agencies to implement ESPCs without violating standard public procurement statutes which tend to focus on a traditional design/bid/build procurement process and is dominated by a low-bid mentality.
  - ESPC avoids **CATNAP** – **C**heapest **A**vailable **T**echnology **N**ecessary to **A**void **P**rosecution
- State Energy Offices (SEO) or other State Agency (e.g., DPW, DGS) typically manage State's ESPC Program
- State Agencies contact your SEO to start a new ESPC project. They can potentially provide:
  - Training to help your State Agency decide if ESPC is the right choice, and how to develop a project
  - Template documents that can save hundreds of hours of legal, procurement, and technical staff time
  - Technical assistance, including high level review of ESCO proposals and technical submissions
  - Lists of pre-qualified ESCOs and Owner's Representatives.
  - Assistance with financing options and RFPs
  - Assistance in securing necessary approvals from Authorities Having Jurisdiction (AHJ)



# Local Government can Facilitate ESPC Projects

- Local Governments (LG) can sometimes get help from SEO. If not, take these trainings, and hire a good Owner's Representative (OR).
- Larger LGs can also help their smaller counterparts by managing multi-jurisdiction procurements.
  - Viable ESPC project cost must be at least \$500,000 - \$1 million. It is challenging for small municipalities to find that much opportunity within their existing building stock.
  - Aggregating several municipalities can form a viable project and provide some economies of scale for the participating municipalities to improve their building stock and save energy and operating costs.
  - Also attracts ESCOs otherwise not interested in pursuing very small projects. |
  - [Case Study: Hamilton County, OH ESPC Aggregation Project](#)
- Larger LGs may provide a larger pool of funding to support smaller LGs.
- [DOE Guide: ESPC for Small Projects](#)



# How Can A Facility Manager Get Started?



1. Contact State Energy Office to get info on resources and any technical assistance available.
2. Identify buildings and other energy using assets that are expensive to operate, have deferred maintenance issues, and require infrastructure renewal investment.
3. Hire an **Owner's Representative** to help assemble and educate internal team and develop a high-level pre-qualification study which will determine if there is a viable self-funding project available. Assemble an internal ESPC team.
4. Discuss ESPC as an option to address your organization's needs and goals with senior leadership. If your institution has cost reduction, GHG emissions reduction, net zero targets, local job creation, improved resilience, or other goals, ESPC is a great solution.
5. Secure commitment from financial and legal departments. (**Anyone with "Veto Power"**)
6. Issue **ESCO Request for Qualifications/Proposals**.



# Assembling an ESPC Team



## APPROVING AUTHORITIES

You need these folks 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.

## ENERGY CHAMPION

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

## OVERSIGHT

This role is becoming far more common. Provide experience, insight and education along every step of the way. Professional ESPC Owner's Reps can save time, money, and aggravation.

## 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 what's needed, where the challenges are today and what will be required of you in the future to maintain guarantee and savings.

## 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.





# Select Partners



## Owner's Representative

- Best to hire them early.
- They can help with almost everything, relieve burdens.
- Main value is providing **independent** education and validation.
- Not easy to find, as its a niche.
- DOE is assembling model procurement and contract docs.
- They are paid fee for service, until financing is in place, then financed funds pay for OR. Owner can reimburse themselves for costs to date.
- [U.S. DOE's An Ally in Your Corner: Benefits of Using Owner's Representatives](#)

## Energy Services Company

- Select one from the pre-qualified list of providers through a Notice of Opportunity (NOO). If not available, issue RFP using [DOE template docs.](#)
- Work with SEO.
- Detailed review of ESCO proposal submissions.
- Always shortlist and interview top 3 or 4 firms. It's all about the local people supporting you!
- Check references for all shortlisted firms.
- Understanding markups and indicative pricing.
- "The comfort factor"

## Financier

- Speak with your Financial Advisor.
- Select one with experience in ESPC financing.
- Work with SEO.
- Send out Financial RFP.
- Interview top candidates.
- Check references.
- Bring them on board when you are about 50% through the Investment Grade Audit phase.
- Ask for indicative rates for ESCO's Cash Flow assembly.



# Some ESPC Best Practices





## General Best Practices

- Hire an experienced, and truly independent Owner's Rep. *Working for ESCOs = Conflict of Interest*
- Roadmap to success, communicate objectives and challenges
- Educate Owner's staff, from boiler room to C-suite, and secure engagement from anyone with "veto power"
- Operations & maintenance staff, especially, need to be brought on board early, or project will struggle
- Consider "leading", not "bleeding" edge technologies
- Integrate building occupants into development, especially educational institutions
- Don't be too prescriptive, allow the ESCO to use their creativity and innovation

## Procurement Best Practices

- Use standardized and vetted procurement templates
- Specify qualifications and past performance requirements
- Request maximum % of hard costs pricing for overhead, profit, engineering, PM, Cx, M&V fees, etc.
- Don't waste time having ESCOs do free audits for the proposal
- Owner negotiates IGA Agreement (OR assists) with ESCO

Pick a partner, not a project





## Implementation Best Practices

- Use Owner's Rep to maintain a Comment/Response/Resolution Document to track IGA development
- Regular meetings allows for incremental decision making
- Maintain coordinated team through development and construction
- Coauthoring scope of work – no surprises at end
- Verify equipment meets specifications in IGA
- Require equipment startup/commissioning, and government witnessing
- Thorough training of the Owner's O&M staff by the ESCO prior to project acceptance, and refreshers, is a key to avoiding performance and savings shortfall issues

## M&V Best Practices

- Ensure M&V protocol meets International Performance Measurement and Verification Protocol (IPMVP) standards
- Scrub the baseline assumptions to ensure their accuracy
- Require annual M&V audits and prompt resolution
- Negotiate performance guarantee terms clearly





## What to Save?

All of it!

- RFP and Response
- Contracts; Base, IGA, ESPC
- Spreadsheets, witness reports, meeting minutes, checklists, commissioning reports, communication – all decisions

## Where do you put it?



eProject eXpress (ePX) is a secure, web-based system that enables states, agencies, institutions and ESCOs to preserve, track, and report information for their project or portfolio of energy services projects.

ePX is a free resource developed and maintained by Lawrence Berkeley National Laboratory on behalf of the U.S. Department of Energy. There are ePX user guides and informational/training videos available on the Help



# Leverage Federal Funding

## Always consider using appropriated funds and grant funding to supplement financing

- Through the [Bipartisan Infrastructure Law](#), the Federal government appropriated **\$550 million to the Energy Efficiency and Conservation Block Grant (EECBG) Program** and **\$500 million for Grants for Energy Efficiency Improvements and Renewable Energy Improvements at Public School Facilities**.
- Through the [Inflation Reduction Act](#), the Federal government is investing \$369 BILLION in energy and resilience improvements.
  - [Elective or direct pay](#) allows states, local governments, and other eligible tax-exempt entities to receive direct payment from the IRS for clean energy tax credits, **worth up to 30% of the project cost**. Includes solar PV, battery energy storage, heat pumps, clean commercial vehicles and EV charging stations, among others.
- **Some of this funding can be used to pay for technical and planning assistance, like an OR, legal, etc.**



# Resources



# Resources

- [ESPC Podcasts | Energy Services Coalition](#)
- [Energy Savings Performance Contracting \(ESPC\) Toolkit | U.S. DOE](#)
- [Model Documents for an Energy Savings Performance Contract | U.S. DOE](#)
- [Performance Contracting National Resource Center | U.S. DOE](#)
- [eProject eXpress | U.S. DOE](#)
- [ENERGY STAR Portfolio Manager | U.S. EPA](#)
- [Funding and Incentives Resource Hub | U.S. DOE](#)
- [Financing Navigator | U.S. DOE](#)



# ESPC Campaign Overview



The **Energy Savings Performance Contracting (ESPC) Campaign** engages states, local governments, K-12 school districts, universities, hospitals, and other market stakeholders to expand and enhance the use of ESPC to achieve significant energy, environmental, and cost savings benefits

**Goal:** Partners will collectively achieve **\$1 billion** in measured and verified savings by 2030

## ESPC Campaign partners:

- Access DOE resources and technical assistance
- Share and implement best practice approaches
- Demonstrate impact with measurement and verification (M&V) data
- Showcase achievements and receive recognition
- Form a growing network of organizations using ESPC to make transformative investments in communities nationwide

- ✓ *Expert-led Trainings*
- ✓ *Topical Webinars*
- ✓ *Peer Exchanges*
- ✓ *“Ask-an-Expert” Office Hours*
- ✓ *Resource Library*





# Closing Thoughts and Next Steps



# This was a LOT of information, and it may seem tough, but...

## Consider this, ESPC is a:

- Tried and true process
  - \$7 billion per year invested (with average project size of roughly \$4.5 million – that's about 30 projects in every state, every year)
- Nearly 50 years of history
- National model instruments, program-in-a-box, and other resources
- A veritable army of knowledgeable, capable expert providers
- A burgeoning industry of 3rd party Owner's Representatives
- U.S. DOE's ESPC Campaign is here to provide trainings, webinars, peer-to-peer exchanges, and limited direct technical assistance



# Success awaits just around the corner

## Benefits of ESPC

- Energy Saved
- Environmental Stewardship
- Jobs Created
- Resiliency Achieved
- Deferred Maintenance Reduced
- Healthier Learning and Working Environments
- Targets Reached



# Future Training and Webinar Topics (examples)

## Trainings

- Getting started with eProject eXpress
- Utilizing an Owner's Representative to improve a project's success
- Utilizing U.S. DOE's template ESPC documents to expedite your project
- Developing your M&V Plan

## Webinars

- Case Study of Texas GSA's Six Phases of ESPC
- ESPC in Higher Education – Applying Lessons Learned
- Tips and Tricks for a Successful ESPC Project



# Questions?





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# *Thank you!*

**Chris Halpin**

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