

EDF's Investor Confidence Project (ICP):


Building Confidence in Energy Savings

The Investor Confidence Project

- **History**

- EDF focus on barriers to attracting capital participation to Energy Efficiency
- Two year effort funded by the Doris Duke Foundation
- Developed a standardized approach to developing a retrofit project
- Worked with finance and engineering communities

- **Goals**

- Increase market transparency
 - Increase deal flow and enable origination channels
 - Create standardization
 - Project best practices
 - Measurement and verification
 - Documentation
 - Enable data from the full project lifecycle
- 

ICP Project Team

Steering Committee

- Sean Neill, SClenergy
- Michael Bobker, CUNY, Building Performance Lab
- Ben Polen, CUNY, Building Performance Lab
- Adam Hinge, Sustainable Energy Partnerships
- Jeff Haberl, Texas A&M University
- David Jump, QuEST
- Gil Sperling, Department of Energy
- Bill Miller, Department of Energy
- Mary Barber, Environmental Defense Fund
- Elizabeth Stein, Environmental Defense Fund
- Brad Copithorne, Environmental Defense Fund
- Jamie Fine, Environmental Defense Fund
- Matt Golden, Environmental Defense Fund

Engineering Working Group

- Wilfred Patric, Arup
- Ellen Franconi, Rocky Mountain Institute
- Lia Webster, Portland Energy Conservation, Inc.
- Dakers Gowens, Left Fork Energy
- Ron Slosberg, L&S Energy Services
- Paul Mathew, Lawrence Berkeley National Lab
- Robert Myers, SClenergy
- Ian Shapiro, Taitem Engineering
- John Shonder, Oak Ridge National Laboratory
- Bob Slattery, Oak Ridge National Laboratory
- Kevin Kaminsky, Energi
- Gerald J. Kettler, Air Engineering & Testing, Inc.
- Colin Davis, kWhOURS
- Brian J. McCarter, Sustainable Real Estate Solutions
- Mark Miller, Strategic Building Solutions
- David Wolins, SClenergy
- Tom Dreesen, EPS Capital Corp, Inc.
- Scott Frank, Jaros, Baum & Bolles Consulting Engineers
- Ron Herbst, Deutsche Bank
- Greg Thomas, Performance Systems Development

Project Allies



Managing Project Risk Factors



Credit Risk

Extending credit to building owners that are not Investment Grade?

Efforts:

- **On-Bill Recovery / Financing**
- **Commercial PACE**



Asset Risk

Linking energy performance to asset value

Efforts:

- **Benchmarking and Disclosure Programs**
- **Appraisal Value**
- **Asset Labeling**



Performance Risk


Assessing the likelihood that savings will be realized

Efforts:

- Investor Confidence Project
- DOE Building Performance Database



Clearing Performance Risk Barriers

- **Project Demand**
 - Lack of standards puts engineering overhead on each firm
 - Channels are rendered ineffective
 - Lack of transparency has created market inefficiencies
 - **Savings Uncertainty**
 - Lots of winners and losers (variance), creating uncertainty
 - Many approaches to savings estimation, installation, commissioning, etc.
 - Averages penalize performing projects, and incentivize low quality
 - **Actuarial Data**
 - Lack of quality and quantity of data results in a high degree of uncertainty
 - Getting data from industry, finance, and the energy sector is challenging
 - Data does not describe all factors that impact performance
- 

Market Actors

- **Financial Markets**

- Ensure performance risk is managed
- Create large pools of conforming projects

- **Insurance Industry**

- Underwrite performance risk

- **Utilities / Capacity Markets**

- Meet capacity needs, and regulatory requirements
- Manage EM&V risk


- **Building Owners**

- Achieve acceptable ROI
- Access financing

- **Origination Partners**

- Connect projects to capital
- Manage performance risk

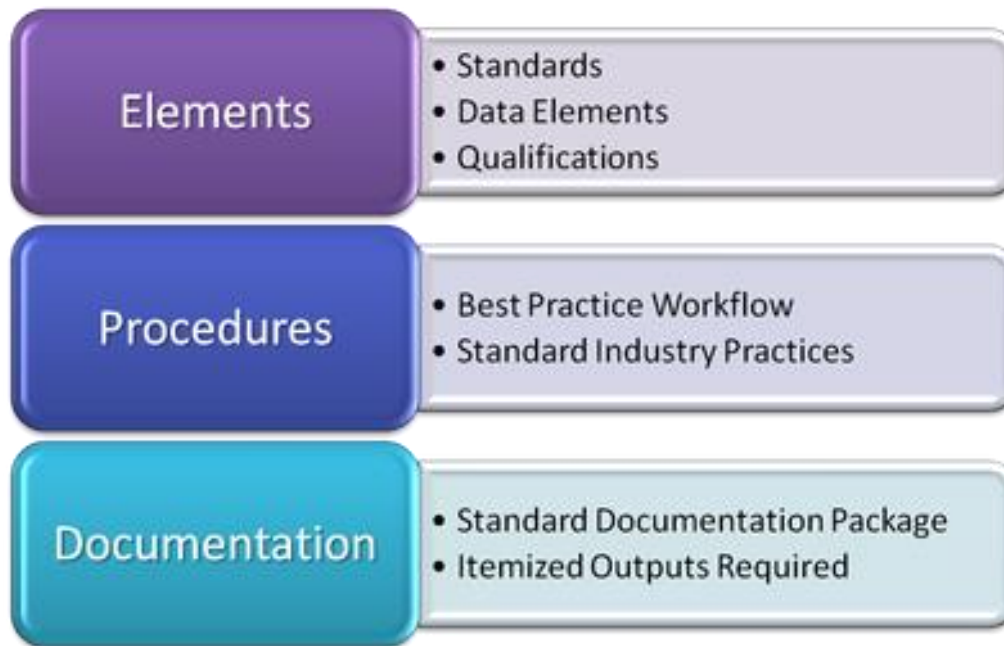
- **Energy Service Companies**

- Increase deal flow
 - Reduce engineering transaction costs
 - Manageable performance risk
- 

The Investor Confidence Project



- **Efficiency Project Framework**



Energy Efficiency Performance Protocol

- **EEPP - Large Commercial**



* Guidelines represent typical project attributes

Under Development:

- **EEPP – Standard Commercial (project under \$1M)**
- **EEPP – Multifamily**
- **EEPP – Targeted Commercial (single measure)**

Energy Efficiency Performance Protocol

- Required Elements
- Required Procedures
- Required Documentation

ENERGY EFFICIENCY PERFORMANCE PROTOCOL
LARGE COMMERCIAL



BASELINING - RATE ANALYSIS, DEMAND, LOAD PROFILE, INTERVAL DATA

Depending upon the location of the building in question, the time of day at which energy is saved can have a significant impact on the dollar value of the savings achieved. Where demand charges are in effect or where rates for on-peak electric usage, load profiles must be provided to show the pattern of daily demand. An annual electrical load profile must be constructed for peak demand (kW) as recorded and billed by the utility. Rates that include Ratchet provisions must be identified. The same procedure must be followed for any other energy source that is sold with a peak demand charge separate from energy usage.

REQUIRED ELEMENTS

- **Energy Purchasing:** Description of how the facility is purchasing energy and the pricing that applies to distribution, commodity, peak and off-peak energy.
- **Load Profile:** Annual load profile showing monthly consumption and peak demand.
- **Peak Usage:** Graphic presentation of peak usage if interval data is available.
- **Time-of-Use:** Time-of-use summary by month if the site is under a time-of-use or real-time rate.

REQUIRED PROCEDURES

1. Establish monthly peak demand and pricing based upon the monthly bills.
2. Chart average daily demand in 15-minute intervals (larger intervals if 15-minute is not available) with time on the x axis and kW (or MMBTU as appropriate) on the y axis for typical weekday and weekend days in the spring, fall, winter, and summer.

REQUIRED DOCUMENTATION

- Copies of at least one bill for electricity and each fuel including the description of the rate class. Copies of commodity purchase contracts and/or utility rate sheets or relevant language therefrom describing peak and off-peak rates, demand charges, time periods, seasonality.
- 12 months of interval meter data for the relevant fuels (if interval metering exists), provided in spreadsheet format.

Optional


- Monthly consumption load profile for each energy type.
- Multi-year, year-over-year plotting of demand by energy type.

Project Performance Package

EEPP standard documentation similar to an appraisal package:

- Prescribed methods
- Consistent taxonomy
- Accepted measurement
- Auditable results
- Standardized documentation

ENERGY EFFICIENCY PERFORMANCE PROTOCOL
LARGE COMMERCIAL



ENGINEERING CERTIFICATION

I hereby certify that the engineering design used in preparation of this application, attachments and supplements were done by me or under my direct supervision.

I further certify to the best of my knowledge that, with respect to the project described herein, the elements listed below have been performed in accordance with the protocols specified as part of the Energy Efficiency Performance Protocol – Large Commercial:

- BASELINING ENERGY USAGE
 - RATE ANALYSIS
 - DEMAND
 - LOAD PROFILE
 - INTERVAL DATA
- SAVINGS CALCULATION
 - SIMULATION MODELING TO REQUIREMENTS
- COMMISSIONING
- ON-GOING COMMISSIONING
- MEASUREMENT AND VERIFICATION
 - M&V METHODOLOGY
 - BASELINE ADJUSTMENT FACTORS IDENTIFIED
 - CONTRACT PROVISIONS FOR M&V

EPPP-LC CERTIFICATION


Name	Firm
Address	Registration / License Number
Phone Number	State
Signature	Date

Project Performance Package

EEPP standard documentation similar to an appraisal package:

- Prescribed methods
- Consistent taxonomy
- Accepted measurement
- Auditable results
- Standardized documentation

ENERGY EFFICIENCY PERFORMANCE PROTOCOL
LARGE COMMERCIAL



ENGINEERING CERTIFICATION

I hereby certify that the engineering design used in preparation of this application, attachments and supplements were done by me or under my direct supervision.

I further certify to the best of my knowledge that, with respect to the project described herein, the elements listed below have been performed in accordance with the protocols specified as part of the Energy Efficiency Performance Protocol – Large Commercial:

- BASELINING ENERGY USAGE
 - RATE ANALYSIS
 - DEMAND
 - LOAD PROFILE
 - INTERVAL DATA
- SAVINGS CALCULATION
 - SIMULATION MODELING TO REQUIREMENTS
- COMMISSIONING
- ON-GOING COMMISSIONING
- MEASUREMENT AND VERIFICATION
 - M&V METHODOLOGY
 - BASELINE ADJUSTMENT FACTORS IDENTIFIED
 - CONTRACT PROVISIONS FOR M&V

EPPP-LC CERTIFICATION

Name	Firm
Address	Registration / License Number
Phone Number	State
Signature	Date

Next Steps

- **Become an ICP Partner**
 - Specify EEPP-LC as your company's standard for large commercial EE projects
 - **Participate in the Process**
 - Refining the EEPP-LC
 - Developing new sector and business model specific protocols
 - Medium/Small Commercial, Multifamily Residential
 - **Help the ICP Reach Critical Mass**
 - A rising tide floats all boats
 - Help identify and engage additional channel and market partners
 - **Become and ICP Ally**
 - <http://www.eepperformance.org/become-a-project-ally.html>
- 

www.EEperformance.org

- Review and comment on protocols
- Join a technical working group

The screenshot displays the website www.eepformance.org/large-commercial.html. The page features a blue header with the text "INVESTOR CONFIDENCE PROJECT" and "a project of Environmental Defense Fund". A navigation menu includes "Investor Confidence", "Project Allies", "Project Framework", "Performance Protocols", "Data", and "Resources". A search bar is located in the top right corner. The main content area is titled "EEPP - Large Commercial" and "Energy Efficiency Performance Protocols". It includes a "Feedback" button on the left and a "Projects" section at the bottom. The "Projects" section is divided into "Asset" and "Retrofit" categories. The "Asset" category lists "Large Commercial" and "Greater than 150,000 Sq. Feet". The "Retrofit" category lists "Whole Building", "Multiple Measures", and "Projects over \$1,000,000". A dropdown menu is open over the "Performance Protocols" link, showing options: "Investor Summary", "Large Commercial", "Standard Commercial", "Multifamily", and "Engineering Certification". The "Large Commercial" option is selected, and a sub-menu is open showing: "Baselining - Core Requirements", "Baselining - Energy Usage", "Savings Calculation", "Design, Construction and Commissioning", "Ongoing Commissioning", and "Measurement and Verification". The main text describes the protocol's focus on large commercial buildings and lists key project types: "Large Buildings", "Whole Building Retrofits", and "High Performana Projects".

www.eepformance.org/large-commercial.html

INVESTOR CONFIDENCE PROJECT

a project of Environmental Defense Fund

Investor Confidence Project Allies Project Framework Performance Protocols Data Resources

Feedback

EEPP - Large Commercial

Energy Efficiency Performance Protocols

Asset

- Large Commercial
- Greater than 150,000 Sq. Feet

Retrofit

- Whole Building
- Multiple Measures
- Projects over \$1,000,000

Projects

Investor Summary

Large Commercial

Standard Commercial

Multifamily

Engineering Certification

Baselining - Core Requirements

Baselining - Energy Usage

Savings Calculation

Design, Construction and Commissioning

Ongoing Commissioning

Measurement and Verification

This protocol focuses on large commercial buildings, among the most energy use-intensive buildings. They exhibit relatively consistent usage patterns.

- **Large Buildings**, where the cost of energy analysis justifies greater time and effort in analysis
- **Whole Building Retrofits**, projects that involve multiple measures with interactive effects rather than a single piece of equipment
- **High Performana Projects**, projects with sufficient depth necessary for

Show all downloads...

9:08 AM

www.EEperformance.org

- Become an Investor Confidence Project ALLY:

The screenshot displays a web browser window with the URL www.eepformance.org/project-allies.html. The page features a blue header with the text "INVESTOR CONFIDENCE PROJECT" and a search bar. Below the header is a navigation menu with links for "Investor Confidence", "Project Allies", "Project Framework", "Performance Protocols", "Data", and "Resources". The main content area is titled "Investor Confidence Project Allies" and includes a cityscape background image. On the left side of the main content, there is a vertical "Feedback" button. The page lists several partner organizations with their logos and brief descriptions:

- EDF** (Environmental Defense Fund): A project of Environmental Defense Fund. Mission: to preserve the natural systems on which all life depends. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems.
- SClenergy**: An international energy management company headquartered in the USA. Dedicated to elevating building performance across owner portfolios.
- energi**: Provides risk management and insurance brokerage services to energy firms engaged in specific market segments.
- Sustainable Real Estate Solutions**: An industry leader in on-demand building energy performance assessment and proprietary benchmarking software.
- Celtic Energy**: An independent energy and sustainability consulting firm founded in 2000 to help facility owners maximize energy and cost reductions.

The browser's taskbar at the bottom shows the Windows logo, several application icons, and the system clock displaying 9:21 AM.

Become an ICP ALLY

Become an ICP Ally

- Specify EEPP-LC as your company's standard for large commercial EE projects
- Memorandum of Understanding (MOU) provided upon request

Participate in the Process

- Provide feedback so we can refine the EEPP-LC and Framework
- Help develop new sector and business model specific protocols

Help the ICP Reach Critical Mass

- Help identify and engage additional channel and market partners
- Join us to create a rising tide that will lift all boats



Investor Confidence Project

www.EEperformance.org

For More Information:

Mary Barber
mbarber@edf.org

Matt Golden
matt@efficiency.org

