



# Is Efficiency an Asset Class? Building Investor Confidence in Energy Efficiency

Wednesday, 3:45 – 5:00 PM

# Efficiency as an Asset Class

- Today's speakers:
  - Panama Bartholomy, Investor Confidence Project Europe
  - Bruce Schlein, Citi

An asset class is a group of securities that exhibit similar characteristics, behave similarly in the marketplace, and are subject to the same laws and regulations.

-Investopedia.com





“exhibit similar characteristics”

- Developed and built in a consistent manner
- Documented in a consistent manner





“behave similarly in the marketplace”

- Maintained consistently
- Measured in a standardized way



“subject to the same laws and regulations”

- Installed, maintained and verified consistently
- Data collected consistently

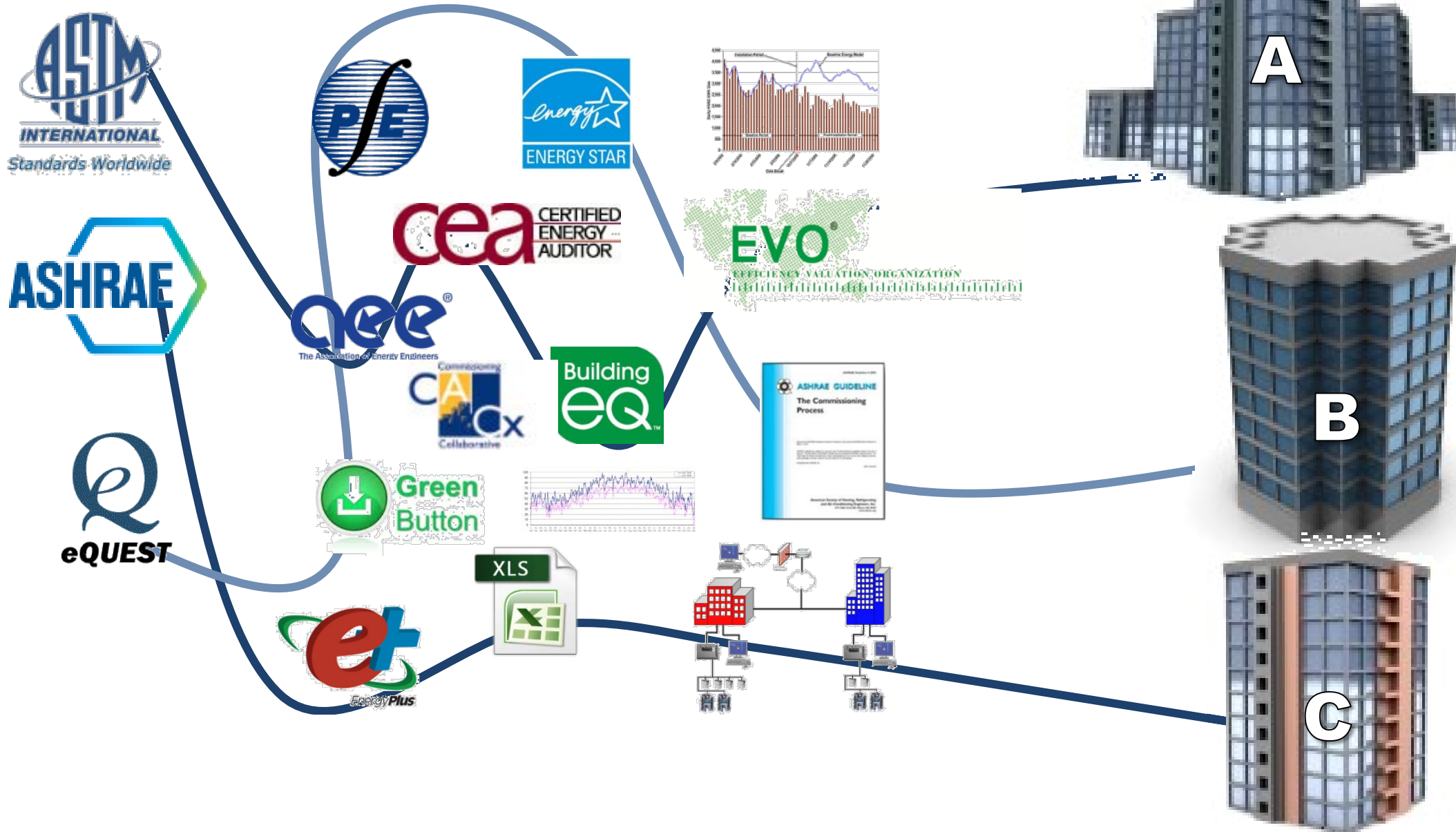


# Energy Efficiency Asset Class

Projects are developed, delivered, maintained, verified and measured in a consistent manner



# Energy Efficiency Today



# Project Professionals



- Auditor
- Savings calculator
- Modeller
- Project developer
- Commissioning agent
- Property management
- Verifier

# Document Sets





# Data Collection

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## Energy Efficiency Asset Class

Projects are developed, delivered, maintained, verified and measured in a consistent manner

An **asset class** is a group of securities that exhibit similar characteristics, behave similarly in the marketplace, and are subject to the same laws and regulations.



THERE IS ALWAYS HOPE







**INVESTOR  
CONFIDENCE  
PROJECT**

# Energy Efficiency Asset Class

Projects are developed, delivered, maintained, verified and measured in a consistent manner



## Near-Term: Increase Deal-Flow

- Increase Confidence in Savings
- Reduce Transaction Costs
- Streamline Origination Process



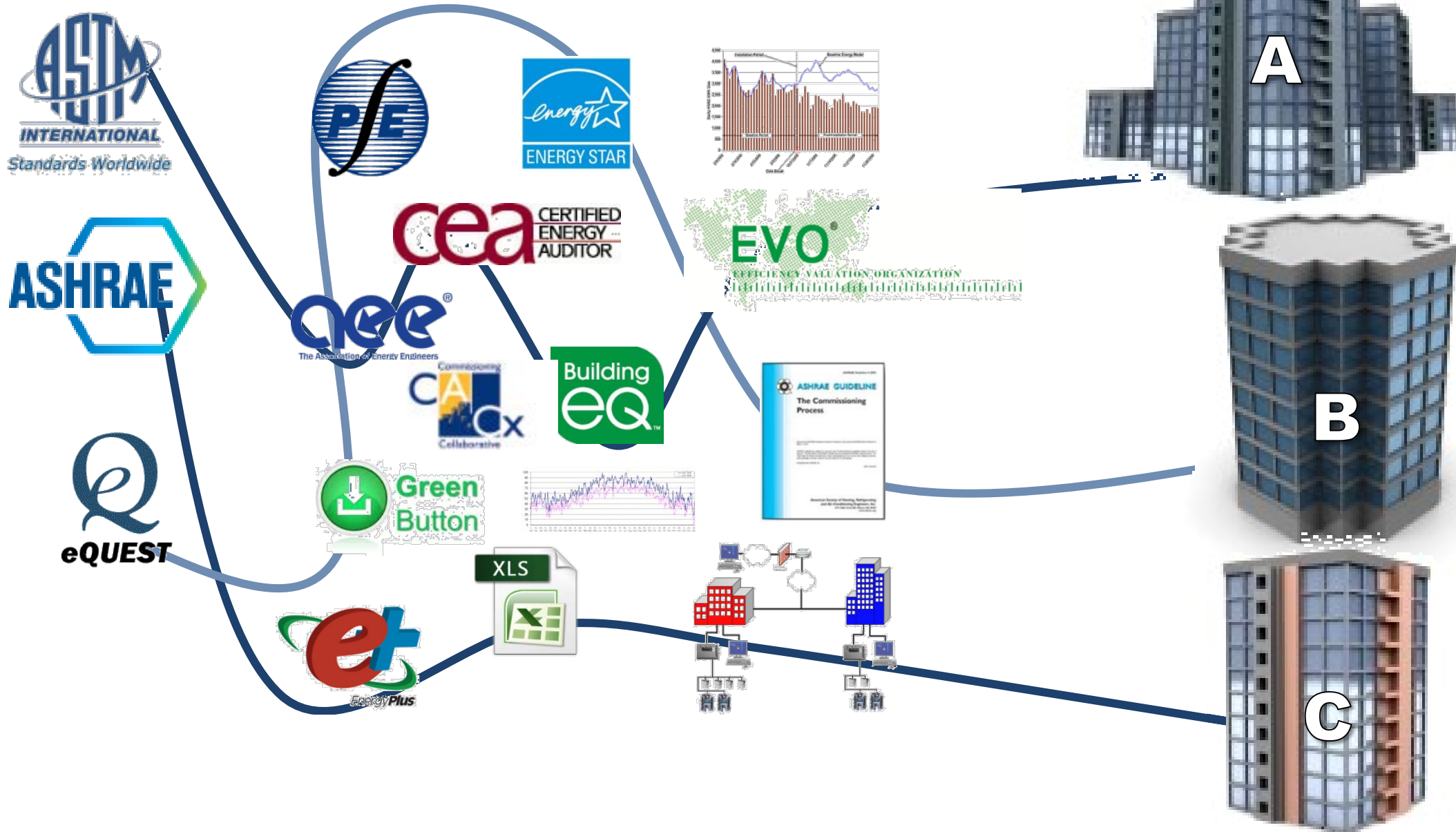
## Long-Term: Market Transformation

- Standardized Performance Data
- Project Finance Underwriting
- Enable Portfolios and Securitization





# Energy Efficiency Today



# Investor Confidence Project Protocols



**BASELINING**

- Existing Building
- Drawings
- Weather File
- Energy Usage
- Energy Rates
- Occupancy

**SAVINGS**

- Model File
- Calibration Data
- Bid Packages
- Certifications

**COMMISSION**

- Cx Plan
- Cx Authority
- Test Procedures
- Facilities Req.

**OPERATIONS**

- BMS Points
- Fault Plan
- Maintenance Plan

**MEASUREME**

- M&V Model
- Regression Model
- Adjustments
- Impact
- Baseline Adjustments

# Commercial



# Protocol Building Types

Large

Whole building retrofit,  
dynamic modeling

Standard

Whole building retrofit, no  
dynamic modeling

Targeted

Single or limited number of  
EE measures

**Google: ICP Protocols**

# Apartment





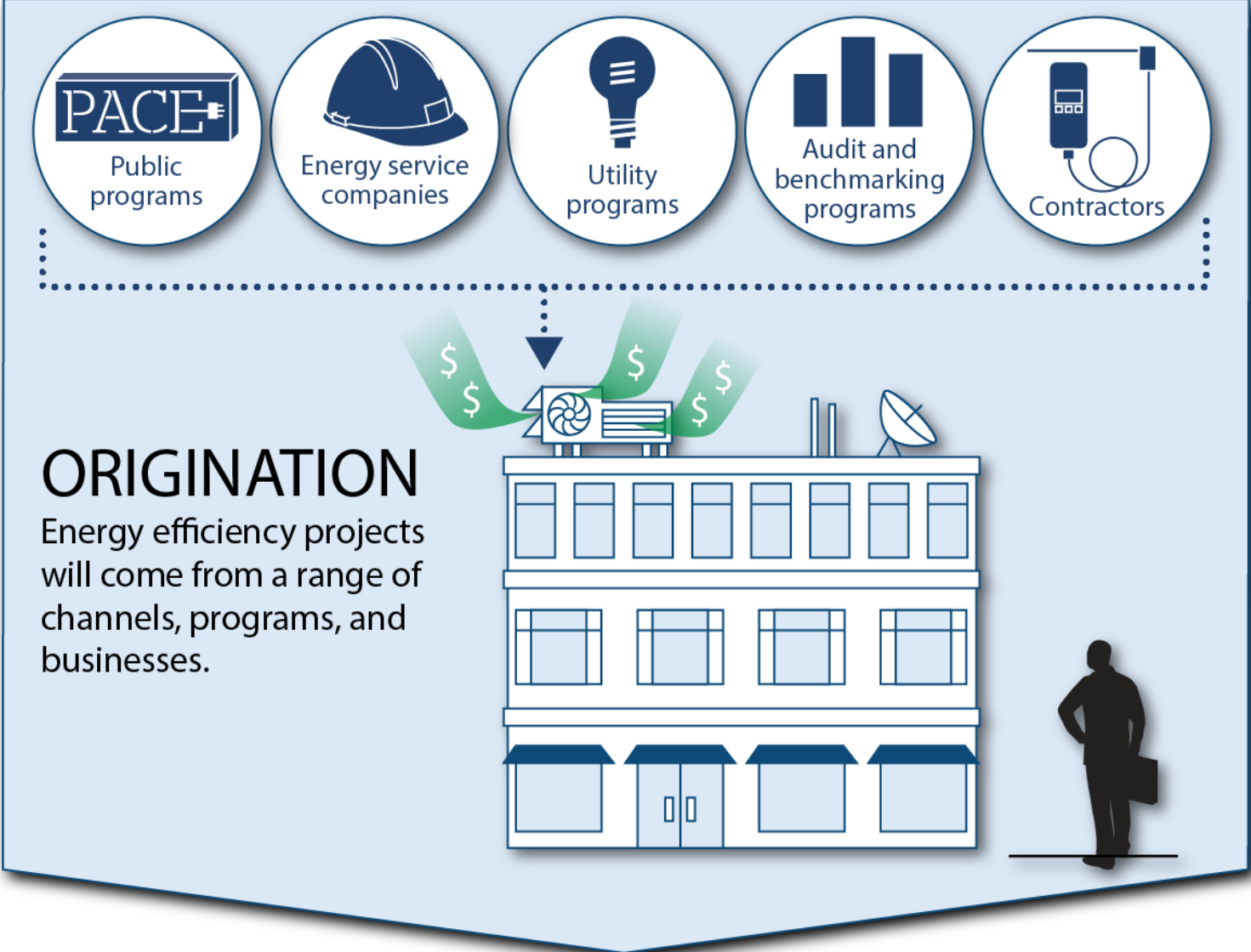
# Investor Ready Energy Efficiency™



IREE is the logo in the lobby, like LEED but for a building retrofit project.



# IREE™ Workflow - Origination



# IREE™ Workflow – Project Development

## PROJECT DEVELOPMENT

Credentialed Project Developer develops and documents projects according to ICP Protocols.



# IREE™ Workflow – Certification

## CERTIFICATION

Independent Credentialed Quality Assurance Provider reviews project for ICP compliance and certifies qualifying projects as Investor Ready Energy Efficiency™.

ICP Quality Assurance Checklist v3.0

Client: C22 Property LLC  
Project: C22 Main St  
Project Developer: Energy Efficiency Inc.  
QA Provider: Assured Quality Assurance

Energy Performance Protocol  
Large Commercial v3.24

**EXCLUSIONS**  
CBE  
PREREQUISITES

- 14-36 months utility data
- Utility baseline period
- End use energy use indicators
- Weather data - related baseline
- 12 month occupancy - related baseline
- Building asset data
- Baseline operational performance data
- Normalized / regression based baseline
- Utility rate structure
- Demand Changes or Time of Use apply
- Annual load profile
- Average daily load profile
- Peak usage
- TOU summary by month (if applicable)

**EARNINGS CALCULATION**

- Software type
- Module credentials
- Weather file
- Model input files
- Model output files
- Model calibration
- Model parameter description
- Energy Efficiency Report
- Energy Conservation Measures (ECMs)
- Investment criteria
- ECM credit variables
- ECM results and package results
- Cost estimates
- Quality assurance statement

**OPERATIONAL PERFORMANCE VERIFICATION**

- Operational Performance Verification plan
- OPI workbooks/credentials

**SPREADSHEET DATA**  
BASIS, METRICS, AND MONITORING

- Ongoing management register
- Project Developer Credentialed

QA Firm: Assured Quality Assurance  
Reviewer: John Doe  
Date: 8/1/18  
Signature: *[Signature]*

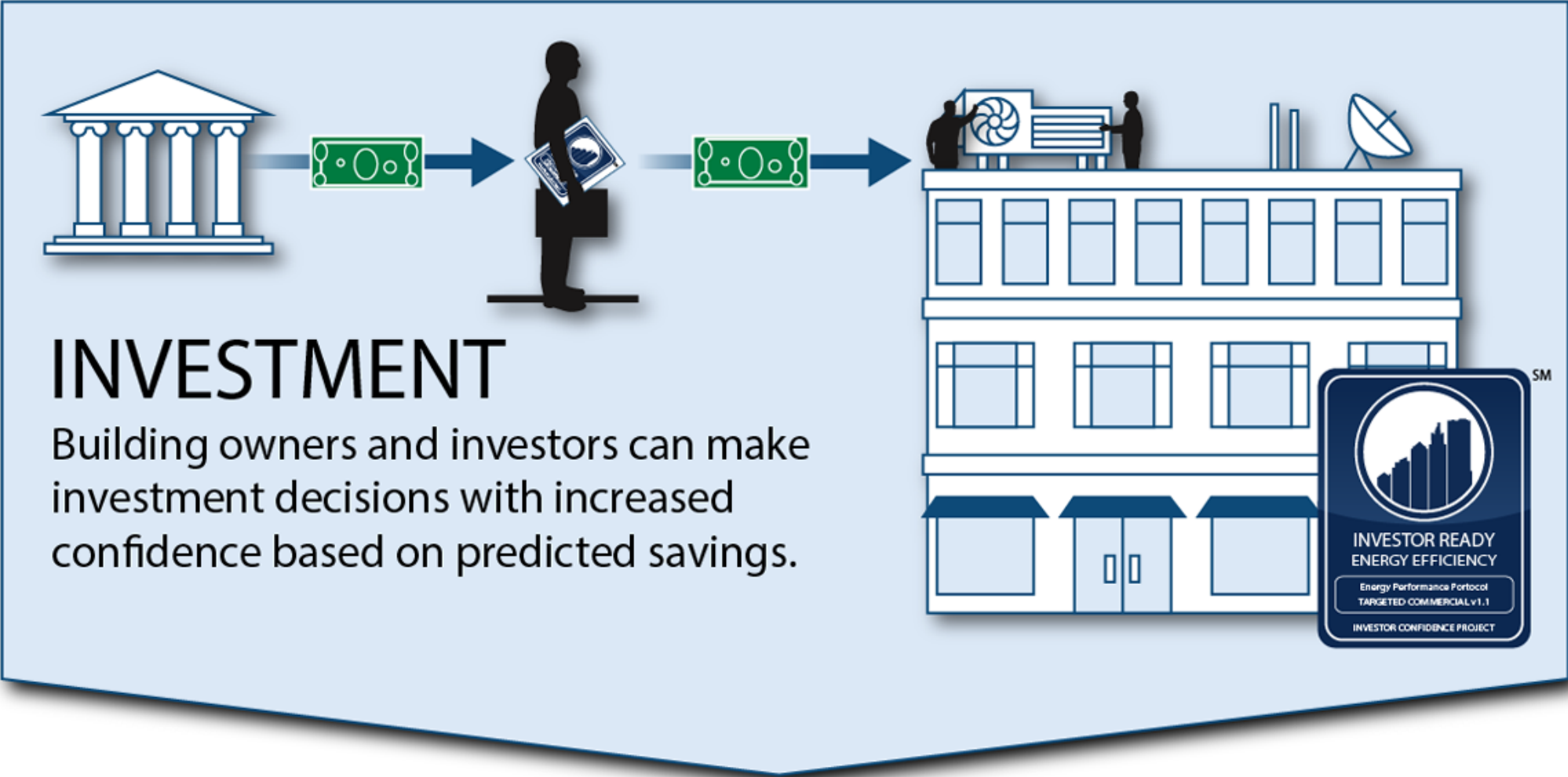
\*Signatures must be provided in addition per ICP-QA guidelines.

ICP-QA Checklist





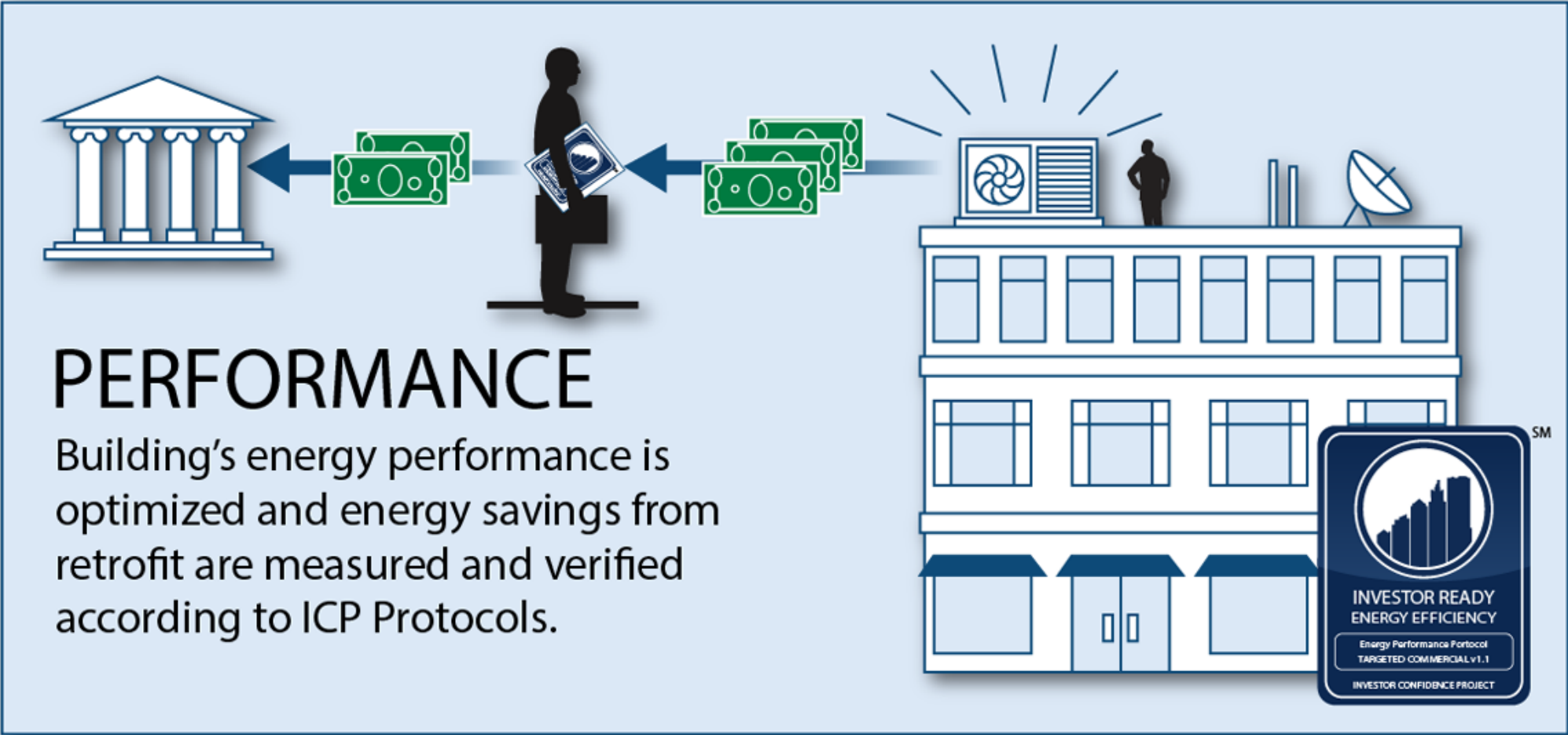
# IREE™ Workflow – Investment



## INVESTMENT

Building owners and investors can make investment decisions with increased confidence based on predicted savings.

# IREE™ Workflow – Performance



## PERFORMANCE

Building's energy performance is optimized and energy savings from retrofit are measured and verified according to ICP Protocols.



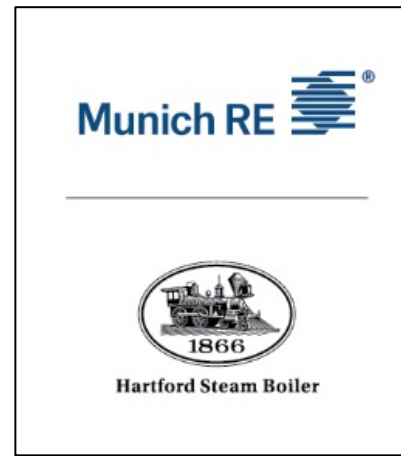




ICP Investor Network



RENEW FINANCIAL



AMBER GREEN Sustainable Capital

Triodos Bank



SM



Menhaden

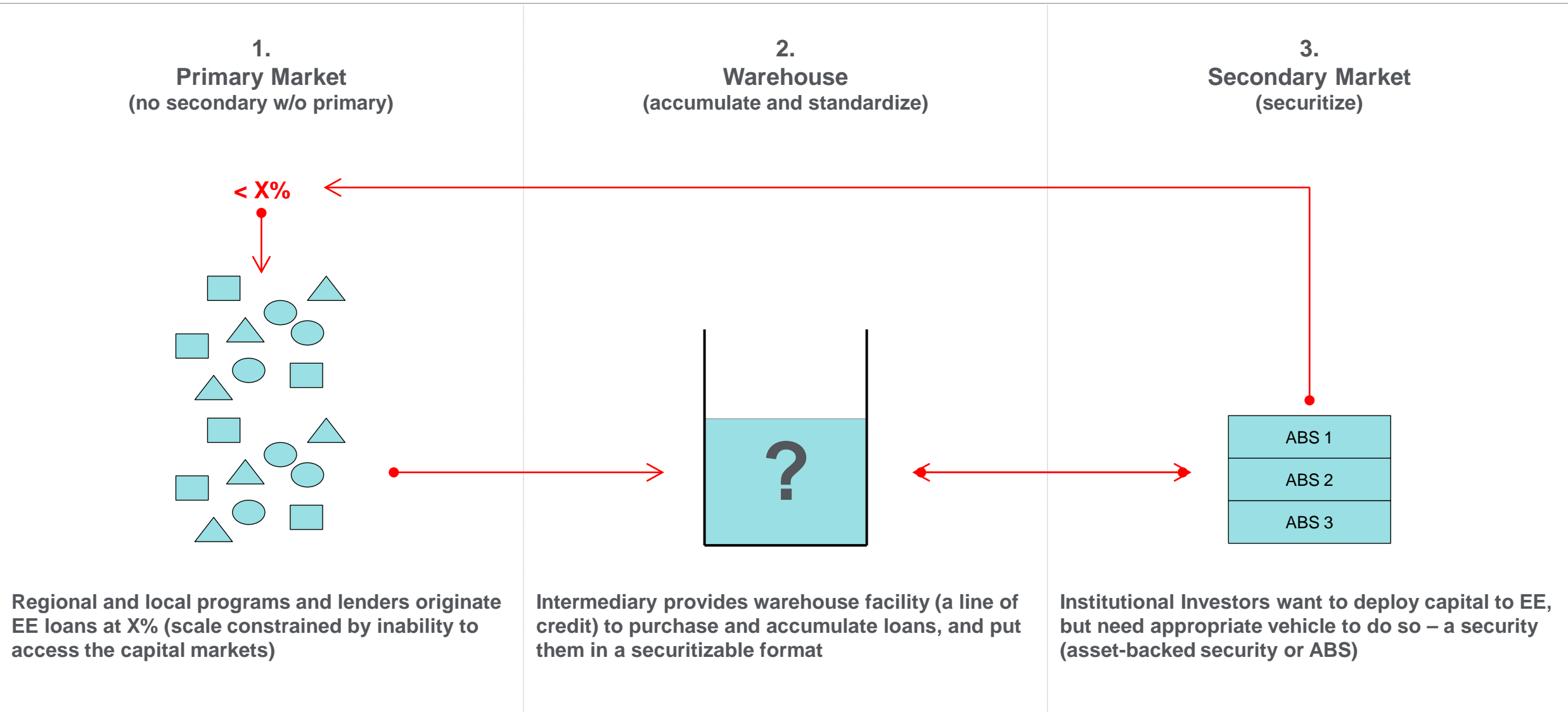




# Outlook for 2017

# Better Buildings 2016: Energy Efficiency as an Asset Class

An asset class is established when 1) the cycle below is complete; 2) multiple cycles have been realized; 3) the flow of capital and activity have increased; and, 4) the cost of capital in the primary market has decreased.



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