

Scaling-up energy efficiency investment in buildings

*Part of the Investor Confidence Project Europe
Presentation for UK stakeholders*

17 June, 2015

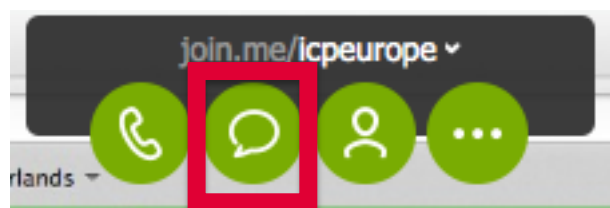


Agenda

- Introduction
- UK market need and current status
- How the Investor Confidence Project will help
- Energy performance protocols
- How you can get involved
- Questions and answers

If you have questions during the webinar

- Please click the “chat” button at the top of the screen, in the Join.me control panel:



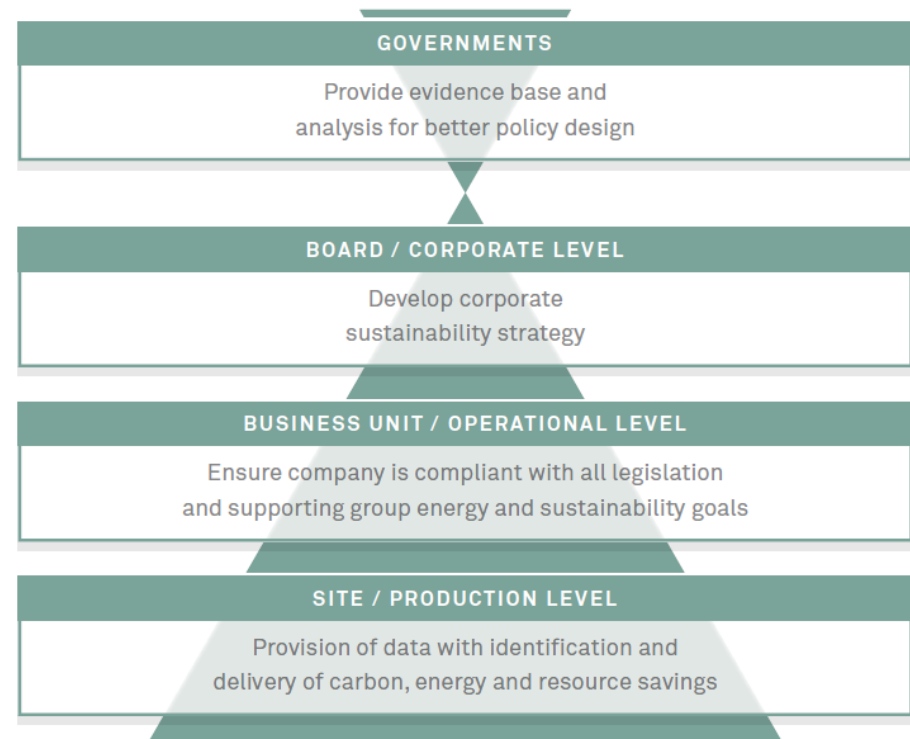
- Please address your questions to “@Verco Moderator”, not “@All”
- Questions will be answered at the end of the webinar
- This presentation is being recorded and will be posted at europe.eepperformance.org and emailed to registrants

Introduction



Verco

- We advise government on policy design and work with major organisations to deliver their energy strategies
- Energy and resource management and software development
- 25-year track record
- End-to-end service to major organisations from corporate strategy to project implementation
- Blend of technical and commercial skills



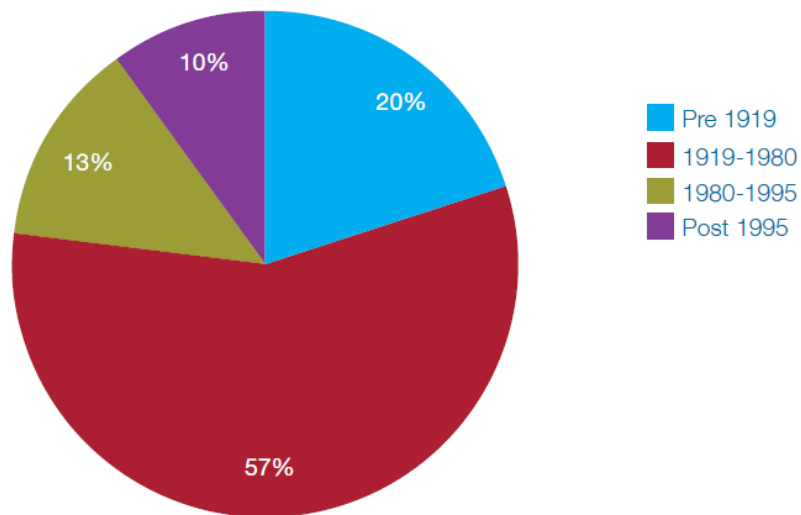
UK market need and current status

Market context

- UK homes and places of work are some of the oldest and most traditionally constructed buildings in Europe
- Approximately 1.8 million non-domestic premises and 5.6 million flats in the UK (lowest in Europe excluding Ireland and Norway)
- Energy efficiency has become a political priority due to energy prices and fuel security concerns
- There is over 80 TWh of outstanding cost-effective energy efficiency potential in this sector, mainly in non-domestic buildings
- UK energy efficiency market is worth more than £18 billion annually, and employs 136,000 people

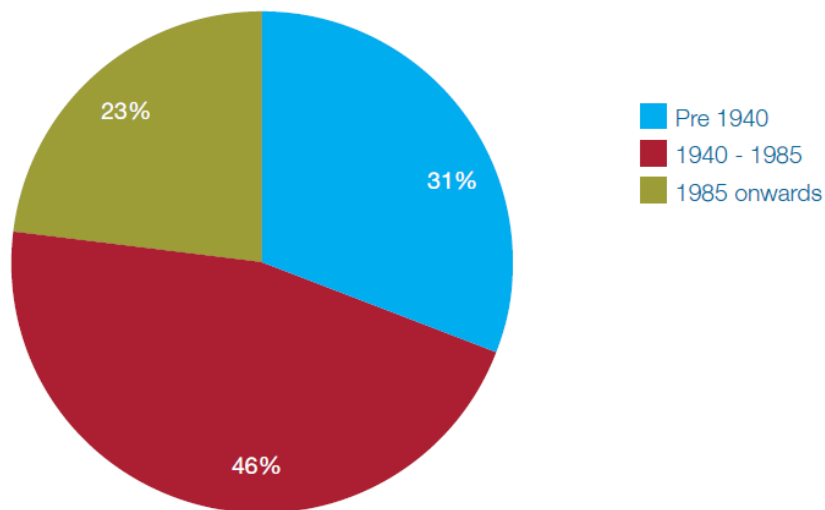
Legacy of historic building stock

Figure 1: Age profile of UK housing³



Source: Housing Surveys

Figure 3: Age of non-domestic buildings by build period



Source: Building Research Establishment⁷

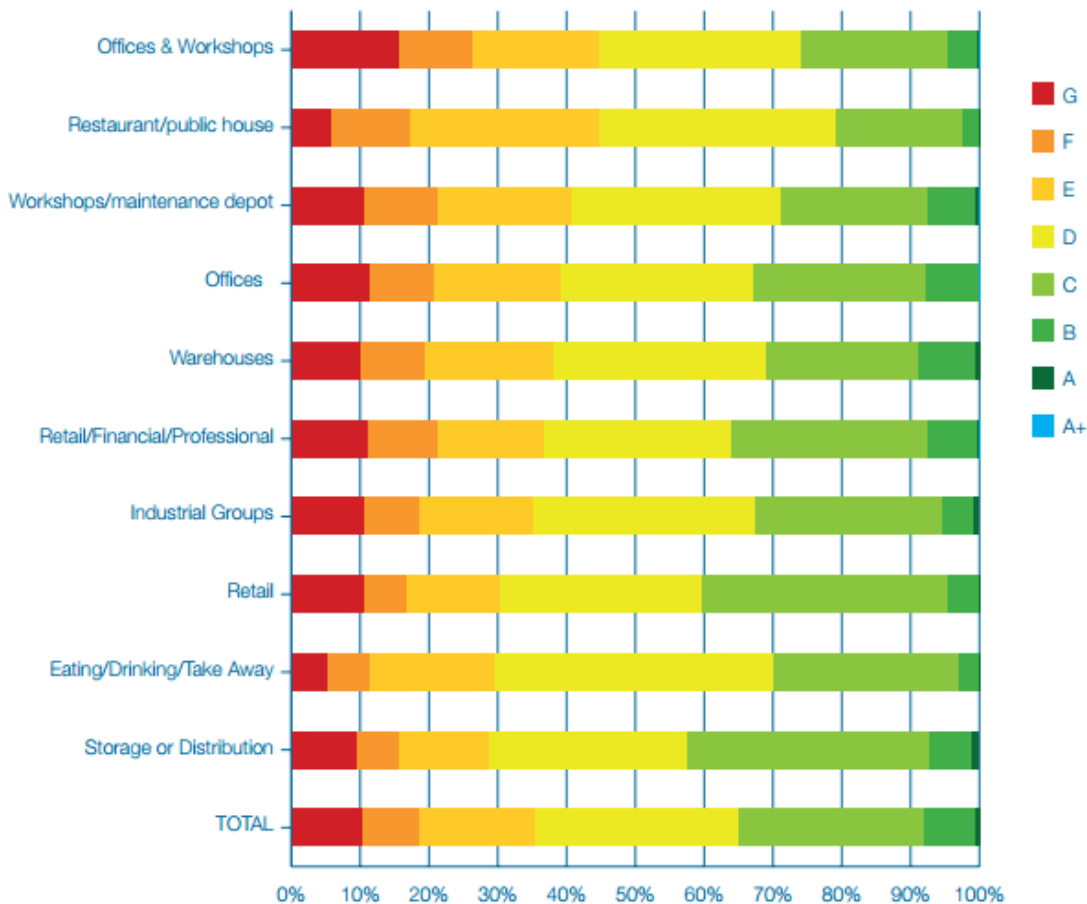
Source: DECC, 2014. UK National Energy Efficiency Action Plan. pp59-60.

UK market trends

- Minimum Energy Performance Standards affecting worst performing stock from 2018
- Green Deal policy designed to provide financed retrofit works (additional incentives required)
- UK Green Investment Bank providing lending for energy efficiency programmes through specialist fund managers
- Growth of national and regional refurbishment programmes
- Energy Savings Opportunity Scheme (ESOS) requiring mandatory audits for large businesses by 5th December 2015

Performance of UK non-domestic buildings

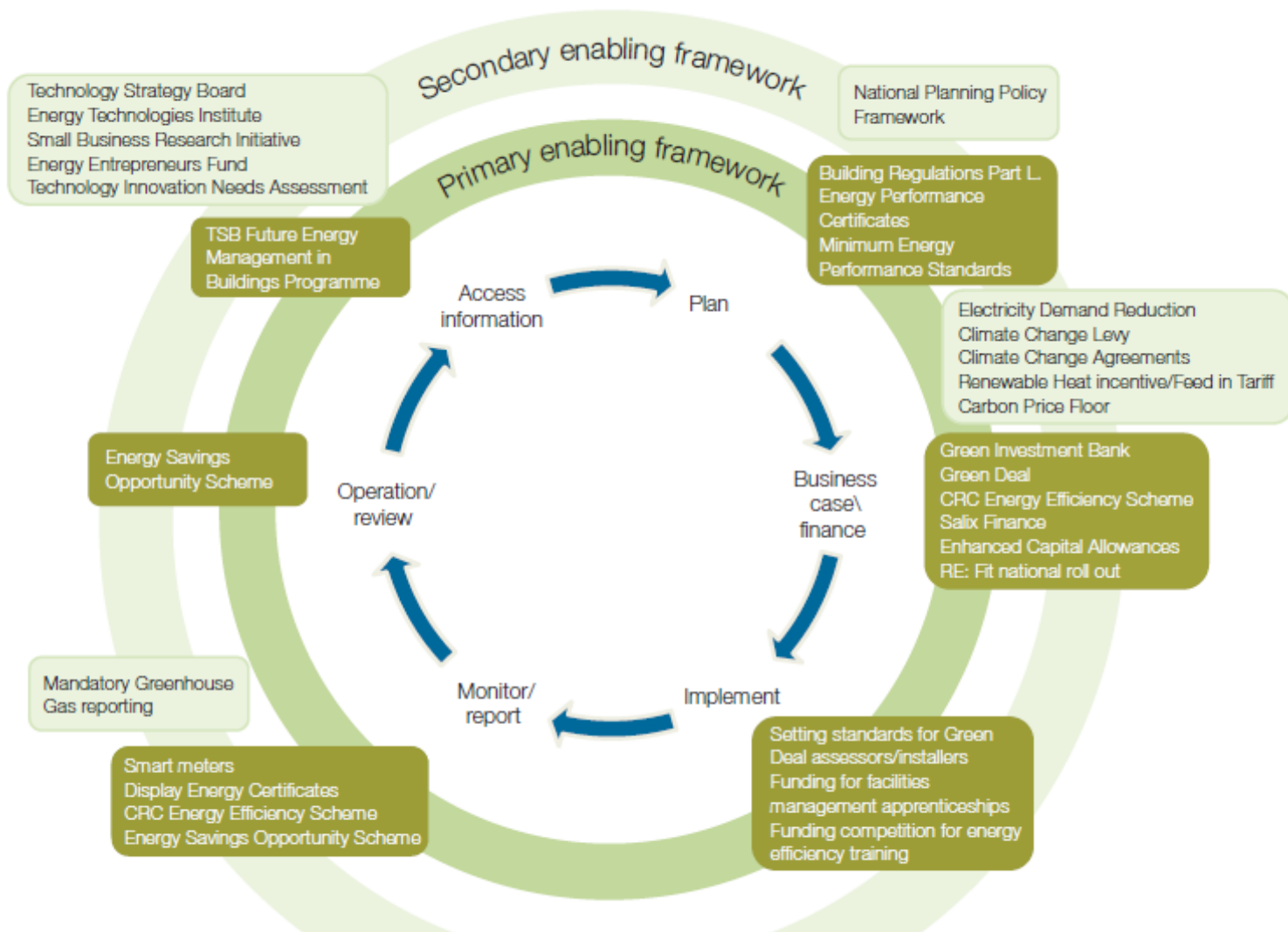
Figure 4: Distribution of Energy Performance Certificate ratings by building sector: 2008 - 2013



Source: Energy Performance Certificate data

Source: DECC, 2014. UK National Energy Efficiency Action Plan. Page 61.

Policies for non-domestic refurbishment cycle



Source: DECC, 2014. UK National Energy Efficiency Action Plan. Page 75.

How the Investor Confidence Project will help



Status report on energy efficiency financing

- Scale of market *potential* recognised ✓
- Co-benefits increasingly recognised ✓
- Growing interest from institutional investors ✓
- Slow development of the EE financing market ✗
 - leading to frustration

A healthy energy efficiency market would have:

- Strong demand by owners and investors
- Highly skilled and accredited workforce
- A mix of financing products at attractive rates
- Standardised tools for tracking and quantifying savings
- Active secondary market



The energy efficiency capital gap

Projects

- Untapped market opportunity
- Healthy returns
- Established industry
- Excess capacity



Investors

- Search for yield
- Risk/Return
- Growing emphasis on Impact Investing
- Growing interest in EE



Outcomes

Increase deal-flow

- Increase confidence in savings
- Reduce transaction costs
- Streamline origination process



Reduce risk and cost

- Develop data to manage performance
- Attract project finance investors
- Enable portfolios and securitisation
- Reduce cost of capital



Energy financing – the future



Standardised
Mainstream
Large volume
Multiple sources



Standardised
Mainstream
Large volume
Multiple sources



NOT standardised
NOT mainstream
SMALL volume
FEW sources

Energy financing – the future



**Standardised
Mainstream
Large volume
Multiple sources**



**Standardised
Mainstream
Large volume
Multiple sources**



**Standardised
Mainstream
Large volume
Multiple sources**

Benefitting all stakeholders

Building owners

Greater confidence in savings
Access competitive financing

Financial markets

Ensure performance risk is managed
Create large pools of conforming projects

Project developers

Connect projects to capital
Manage performance risk

Insurance industry

Underwrite performance risk
Reduce transaction time and costs

Energy Service Companies

Increase deal flow by accessing channels
Reduce engineering transaction costs

Technology providers

Common project taxonomy that crosses
platforms
Help customers connect projects to investors

Utilities / Capacity markets

Meet capacity and regulatory requirements
Manage EM&V risk

Programs and NGOs

Link efforts to a marketplace of investors
Develop a national market with common
standards

Timeline

CREATE TOOLS

Protocols
Accreditation
Labels
Open data

TAKE TOOLS TO MARKET

Private investors
Public programmes
Developers
Property owners
Utilities

BE A CATALYST FOR CHANGE

Inspire action
Connect projects to capital
Create working examples

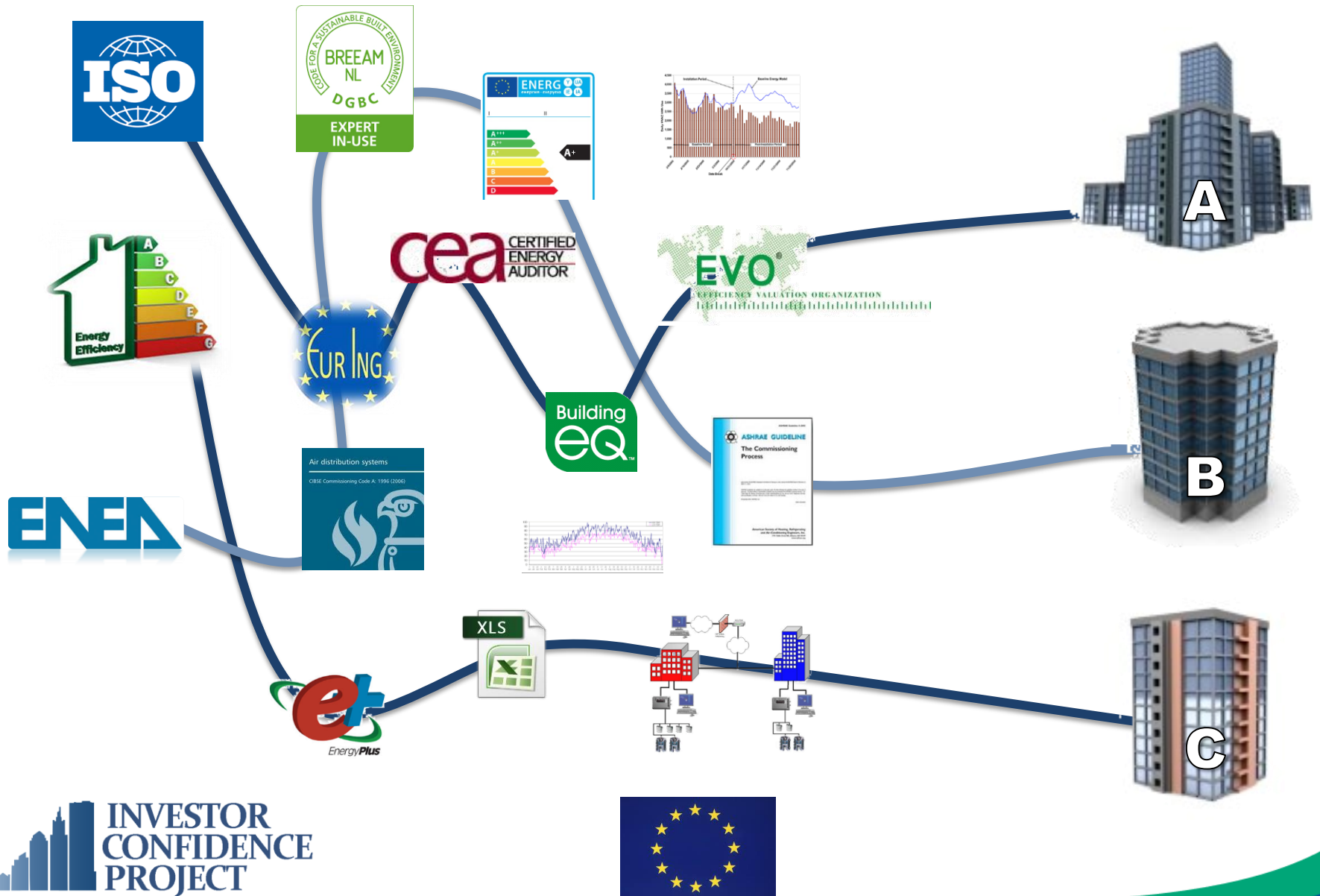
2015

2016

2017

Energy performance protocols

Lack of Standardisation = Greater risk



ICP Energy Performance 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

MEASUREMENT

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

Protocols under development

Large non-domestic

Large apartment

Project capex > €1m, whole building retrofit

Standard non-domestic

Standard apartment

Project capex < €1m, whole building retrofit

Targeted non-domestic

Targeted apartment

Single or limited number of EE measures

ICP Energy Performance Protocol

Protocols do **NOT**:

- Invent new standards
- Attempt to impose national standards in another country
- Restrict engineering solutions
- Define a set level of energy savings



How you can get involved

European Ally Network Members

EMVC Solutions

CLIMATE & STRATEGY
PARTNERS



SIEMENS



British Energy Efficiency Federation



EcoProsperity Capital Ltd

Lavery/pennell



HUBER DIXON
INSURANCE SERVICES LTD

Green
Investment
Bank



European Ally Network Members

If you are not here you should be.

Become an Ally!

<http://europe.eepperformance.org/join-icp-europe>

Or Google “ICP Europe Ally”

ICP Europe Technical Forum

Market leaders provide input into the development of the protocols

- Financiers
- Building owner groups
- Developers, installers, ESCOs
- Government agencies
- Utilities



ICP Europe Technical Forum

Join the Technical Forum!

europe.eepperformance.org/technical-forum

Google “ICP Europe Technical”

How you can get involved

Join ICP Europe Technical Forum

Google “ICP Europe Technical”

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Sign up for updates

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Thanks for listening

Contact: icp-uk@vercoglobal.com



Dave Worthington

Managing Director

m: +44 (0)7786 510 792

e: dave.worthington@vercoglobal.com



Neal Mehta

Principal Consultant

m: +44 (0)7824 636 048

e: neal.mehta@vercoglobal.com

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