National Technical University of Athens
School of Electrical and Computer Engineering
Management & Decision Support Systems Laboratory

Unlocking the energy efficiency investments – European Initiative and Actions

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Starting Point

- The current investments are **below** half of this requirement.
- The current investments **are five times** lower than required to deliver 2050 decarbonisation targets.
- **Common language** between project developers, project owners and financial institutions remains still a challenge.

EEFIG

- *EEFIG was established in 2013 by DG Energy and UNEP FI.*

Open dialogue and work platform for public and private financial institutions, industry representatives and sector experts on how to overcome the challenges of obtaining long-term financing for energy efficiency

Energy Efficiency
Financial Institutions Group

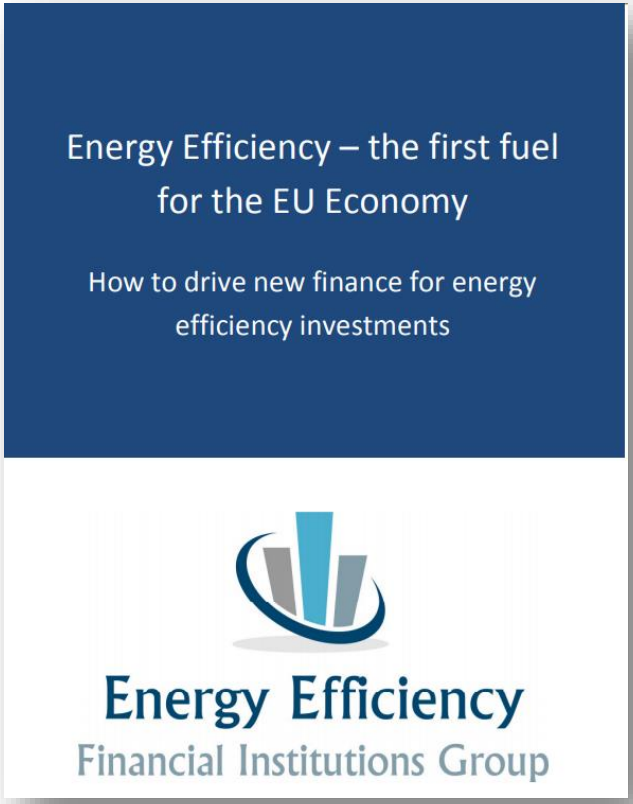
- 120 active participants from 100 organizations

European Commission

UNEP FINANCE INITIATIVE

Investments

In February 2015, EEFIG presented its landmark report "Energy Efficiency – the first fuel for the EU Economy: How to drive new finance for energy efficiency investments ".



Findings

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Financial Institutions Group

- Lack of **evidence** on the performance of energy efficiency investments makes the benefits and the financial risk harder to assess.

- Lack of **commonly agreed** procedures and standards for energy efficiency investment underwriting increase transaction costs.

DEEP

DEEP
DE-RISKING ENERGY
EFFICIENCY PLATFORM

- **In 2016,** the Energy Efficiency De-risking Project was awarded to address the EEFIG's conclusions → evidence base that would de-risk energy efficiency investments.

✓ Open source **database**

✓ Common, accepted, standardized underwriting **framework**

EnergyPro COWI BPIE CLIMATE STRATEGY PARTNERS Fraunhofer

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DEEP was launched on 30 November 2016 in close coordination with the Commissions launch of the Clean Energy for All Europeans package.

https://deep.eefig.eu

DATABASE (1/2)

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Upon launch the database includes 10,000+ energy efficiency projects in buildings and industry from 25 data providers:

DATABASE (2/2)

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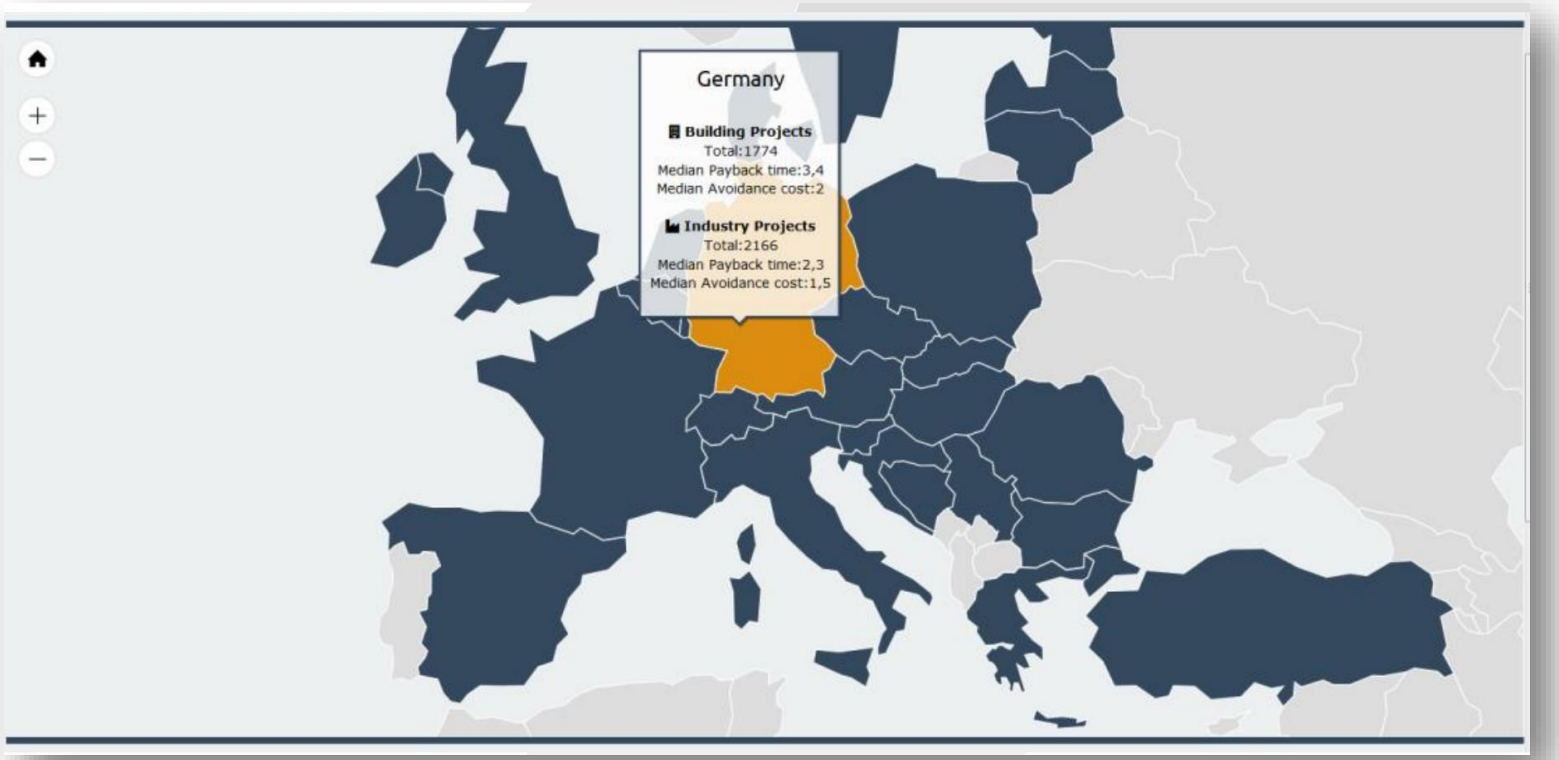
Key figures Key figures for energy investments in the platform

BUILDINGS	MEDIAN PAYBACK - BUILDINGS	MEDIAN AVOIDANCE COST - BUILDINGS	INDUSTRY	MEDIAN PAYBACK - INDUSTRY	MEDIAN AVOIDANCE COST - INDUSTRY
5.152	5,0	2,5	5.014	2,0	1,2
Projects	Years	Eurocent/kWh	Projects	Years	Eurocent/kWh



RESULTS - BUILDINGS

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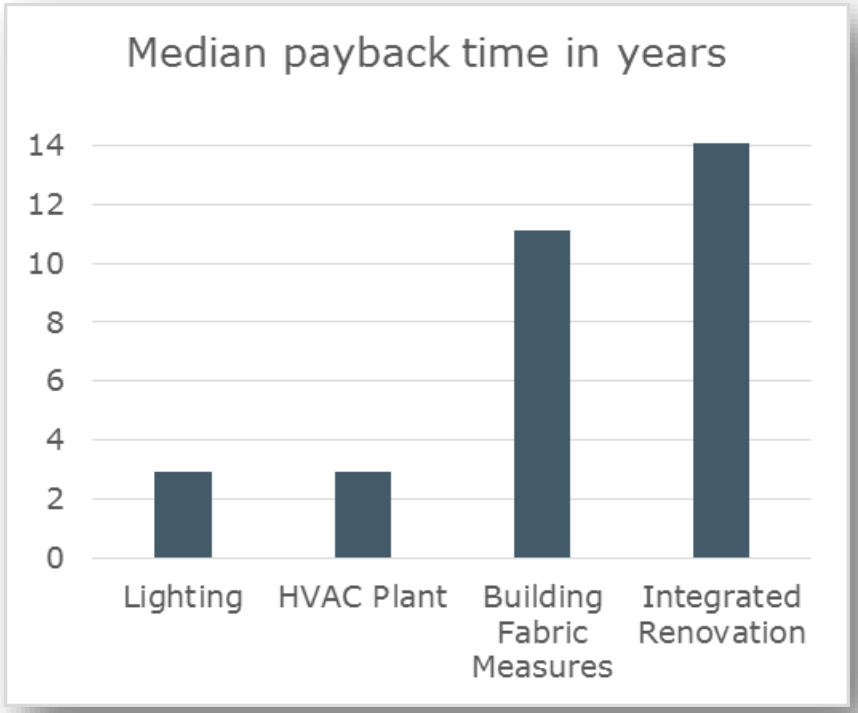

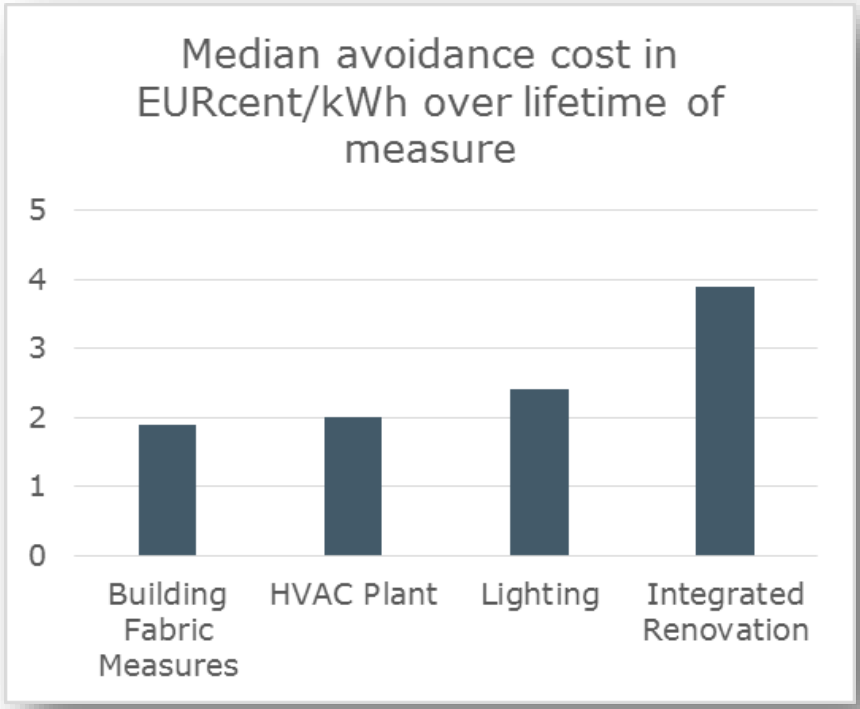

- ✓ In buildings, single measures payback in a median of 3 years;
- ✓ Deeper or integrated renovations typically require over 11 years paid back;
- ✓ Deeper renovations are attractive from a socio-economic point of view, but require access to long-term financing.

RESULTS - INDUSTRY

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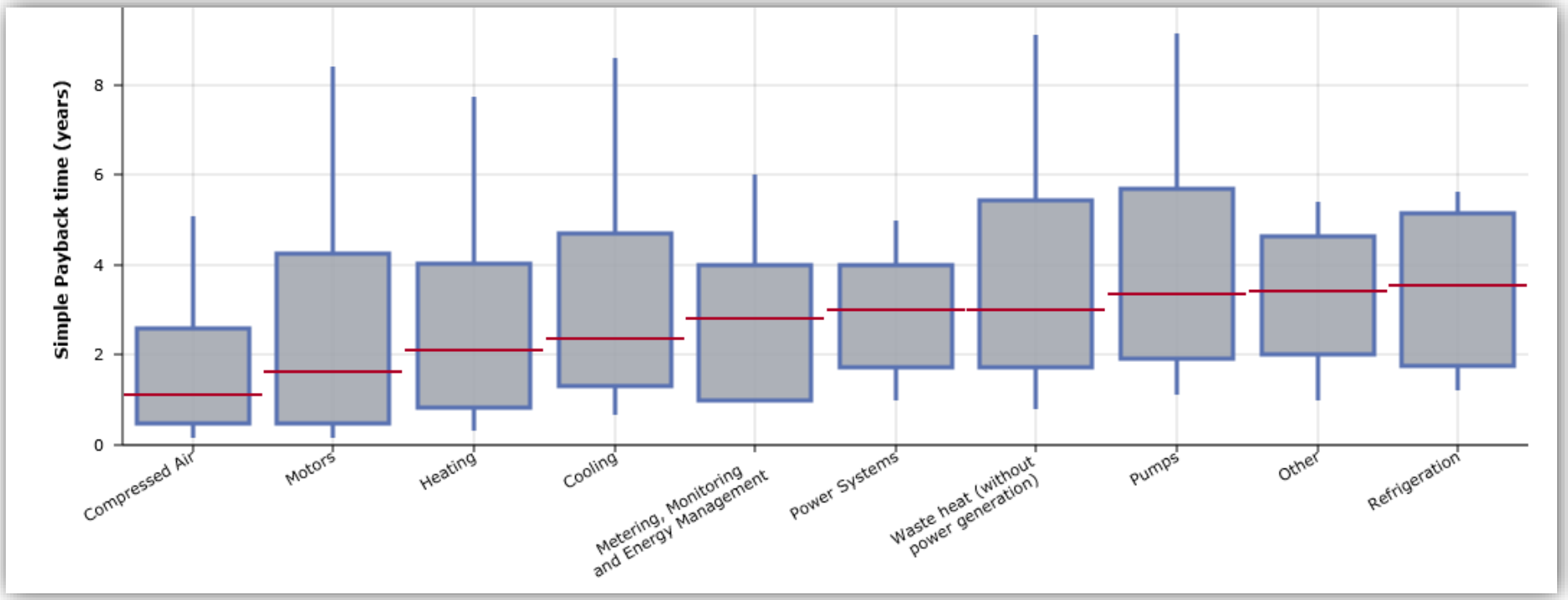

- ✓ The median payback from over 5,000 DEEP contributed projects from Industry is 2 years;
- ✓ Many energy efficiency opportunities in industry have payback times below 3 years.

RESULTS - VERIFICATION

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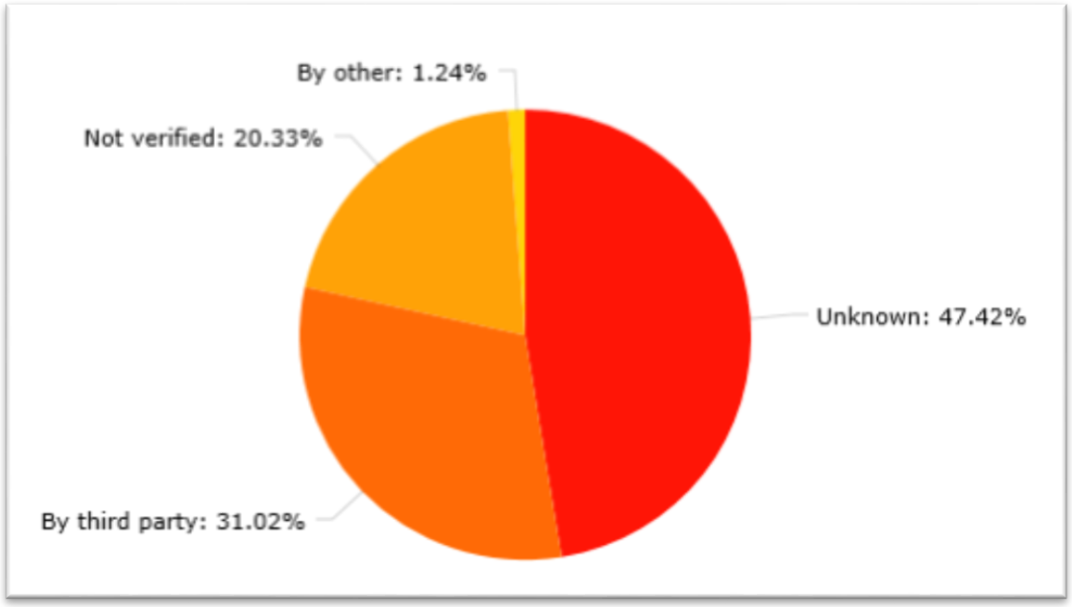
- ***Buildings:*** Savings have been verified by third parties for 31% of the projects. The verification status is not known for almost half of the building projects.
- ***Industry:*** Less than 1% of the projects have an independent ex-post verification of the energy savings.

- EE projects continue to **lack sufficient monitoring** of ex-ante and ex-post data → higher risk perception.



RESULTS - NON ENERGY BENEFITS

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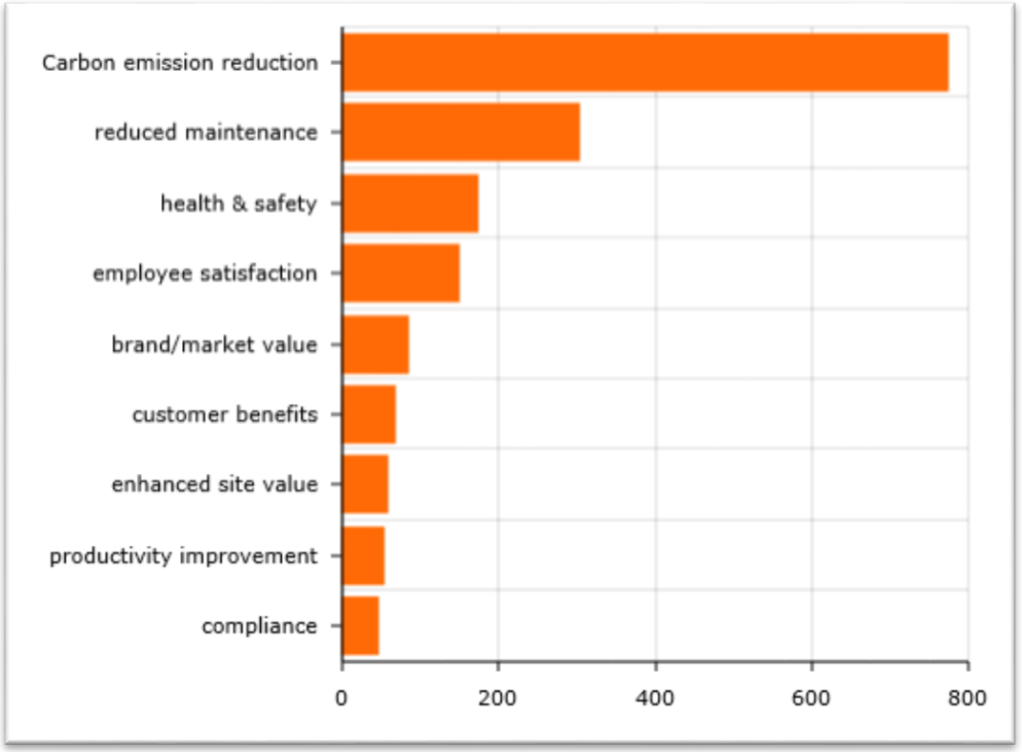
- Non-energy or multiple benefits from energy efficiency projects are important investment drivers.
- Just 12% of Buildings and 5% of Industrial projects contain respective information.



TOOLKIT

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- ✓ On 22 June 2017, the EEFIG Underwriting Toolkit was launched during the EU Sustainable Energy Week.
- ✓ *Aim:* To assist financial institutions to design better financial products and scale up the deployment of capital into energy efficiency:
  - *Provide a **common framework** for evaluating energy efficiency investments towards standardised processes and understanding.*
  - *Help developers/ owners seeking to **attract external capital** to develop projects that better address the financial institutions needs.*

TOOLKIT

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Energy Efficiency
Financial Institutions Group

https://valueandrisk.eefig.eu/

Certification IREE™

SM

INVESTOR READY ENERGY EFFICIENCY

Energy Performance Protocol
LARGE MULTIFAMILY v1.0a

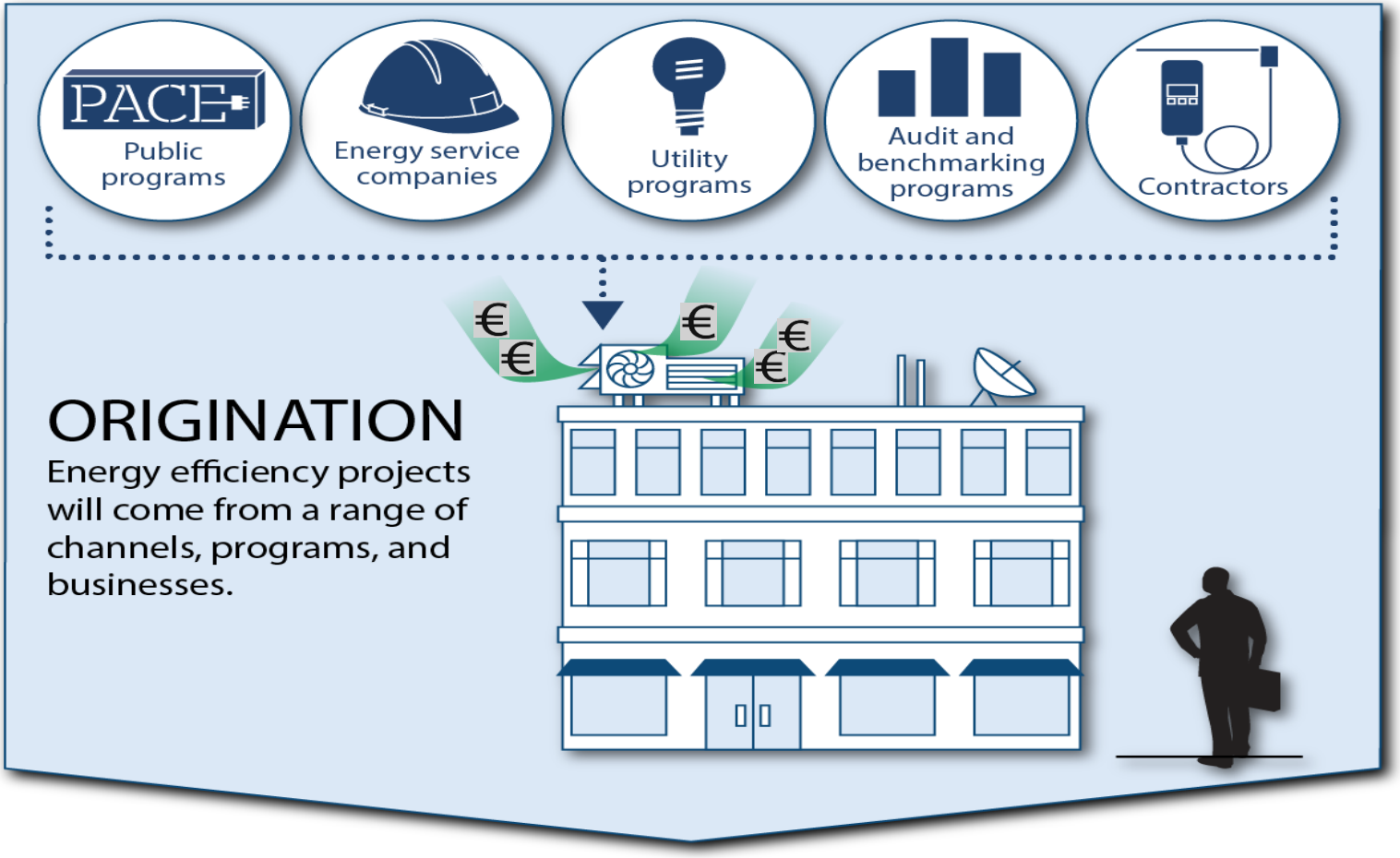
INVESTOR CONFIDENCE PROJECT

Refers to and provides information about energy efficiency retrofit projects that conform to the requirements of the ICP Protocols, have been reviewed by ICP Quality Assurance Assessors, and have received Investor Ready Energy Efficiency™ (IREE) certification.

IREE™ compared with other certifications

IREE™ is similar to LEED and BREEAM concerning however only **retrofit projects**

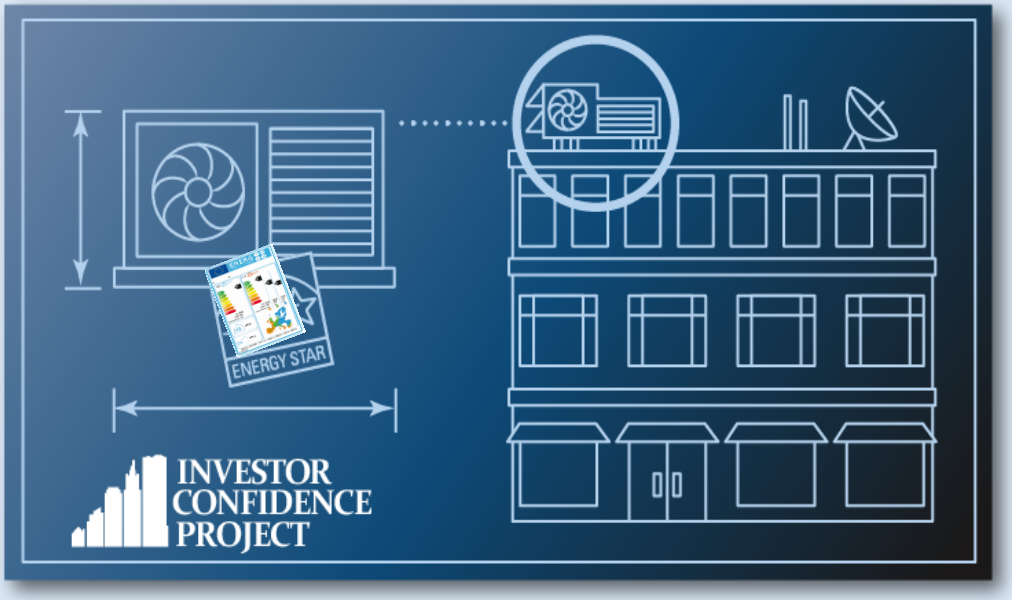
IREE™ Steps (1/5)



IREE™ Steps (2/5)

PROJECT DEVELOPMENT

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

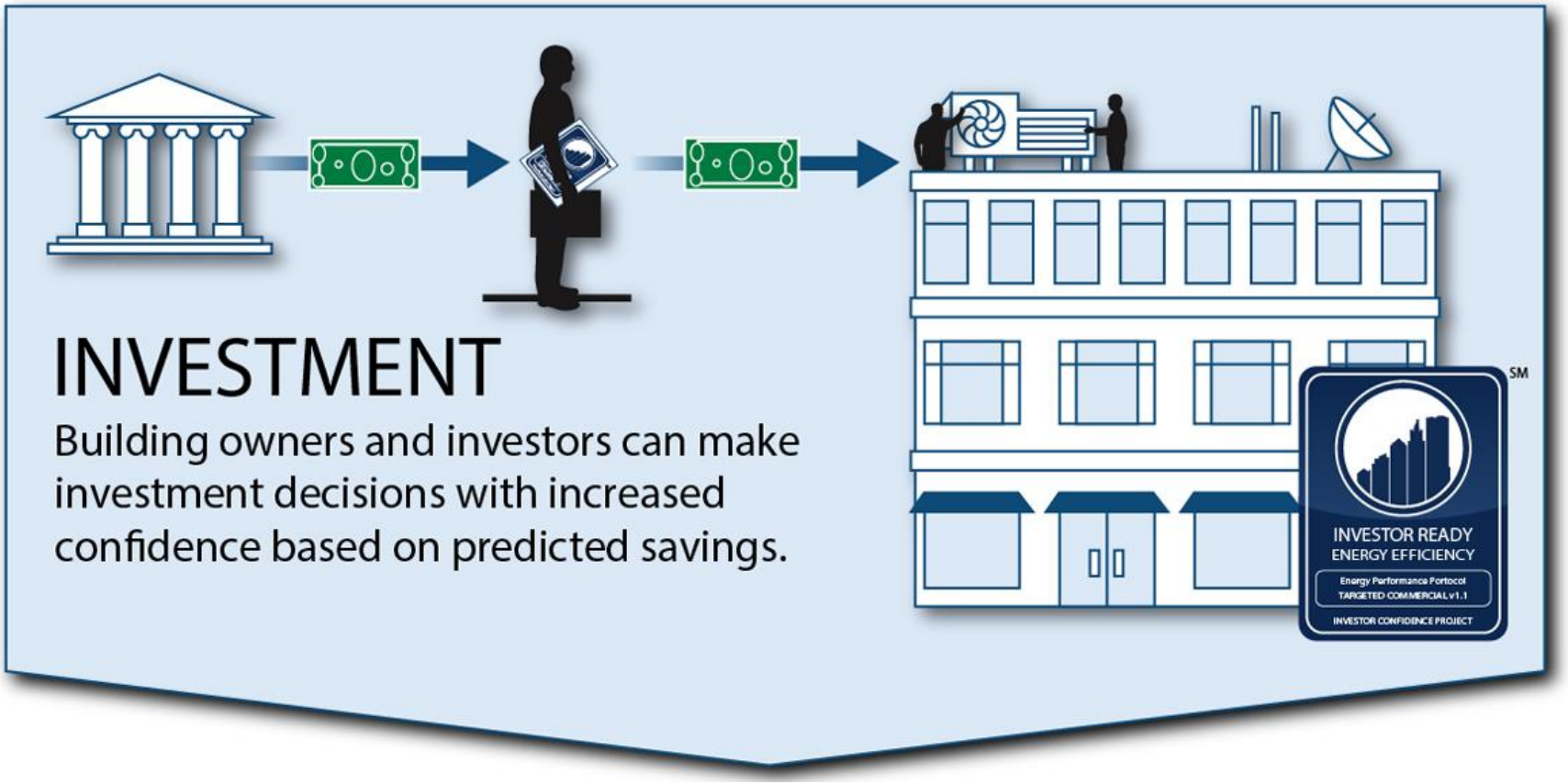


IREE™ Steps (3/5)

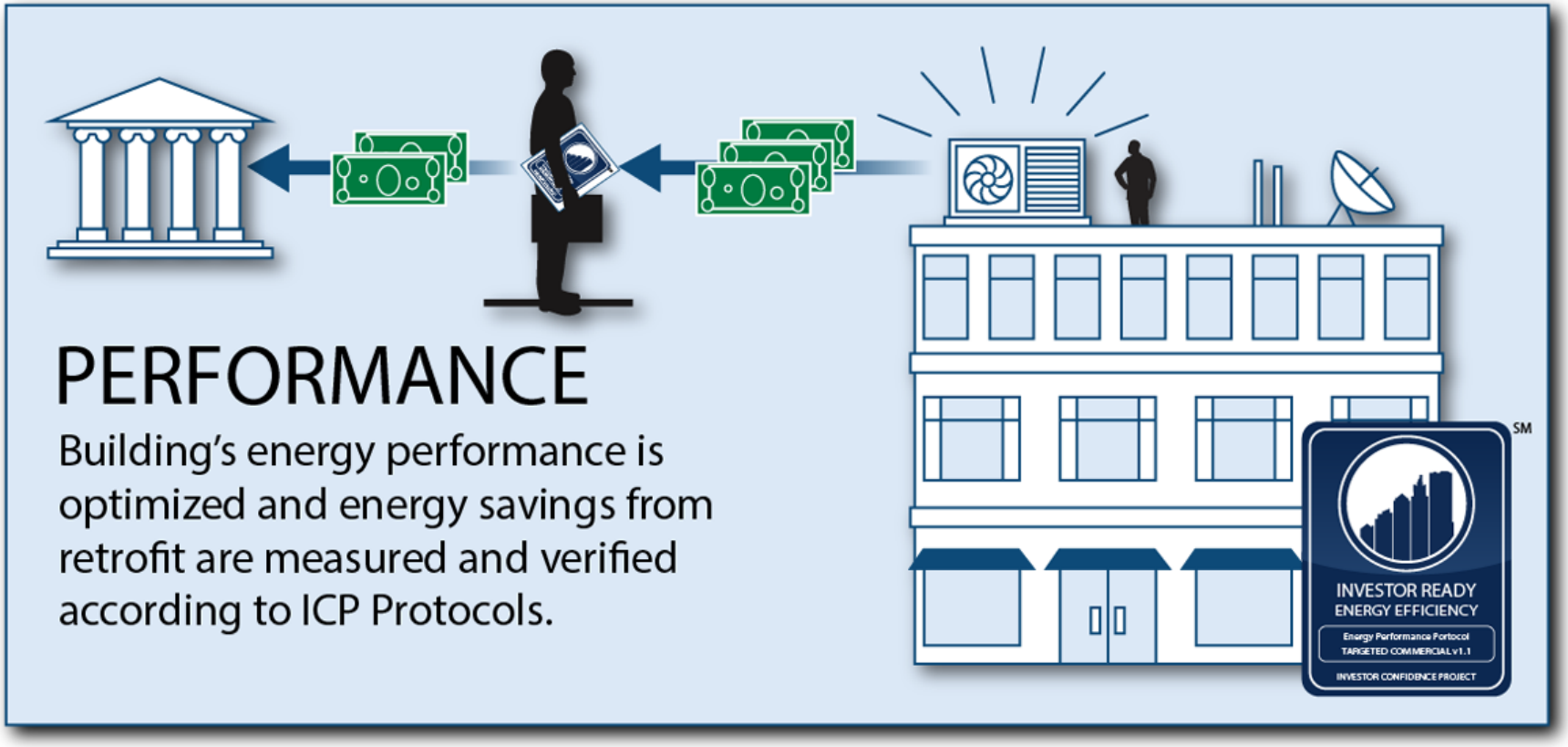
CERTIFICATION

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

IREE™ Steps (4/5)



IREE™ Steps (5/5)



Investor Network ICP

The ICP Investor Network is comprised of energy efficiency investors, of more than €1.5 million for energy efficiency investments, who recognize the value of standardized Investor Ready Energy Efficiency™ (IREE) projects.

JOULE ASSETS

CutPower
Europe's greatest energy

SUMA CAPITAL
private equity

Royal Bank of Scotland

Triodos Bank

Munich RE

INGENIOUS INFRASTRUCTURE

pib

eeef
EUROPEAN ENERGY EFFICIENCY FUND

ENERGY EFFICIENCY AND RENEWABLE SOURCES FUND

SUSI PARTNERS
SUSTAINABLE INVESTMENTS

Menhaden

CEF
The CARBON & ENERGY FUND

AMBER GREEN
Sustainable Capital

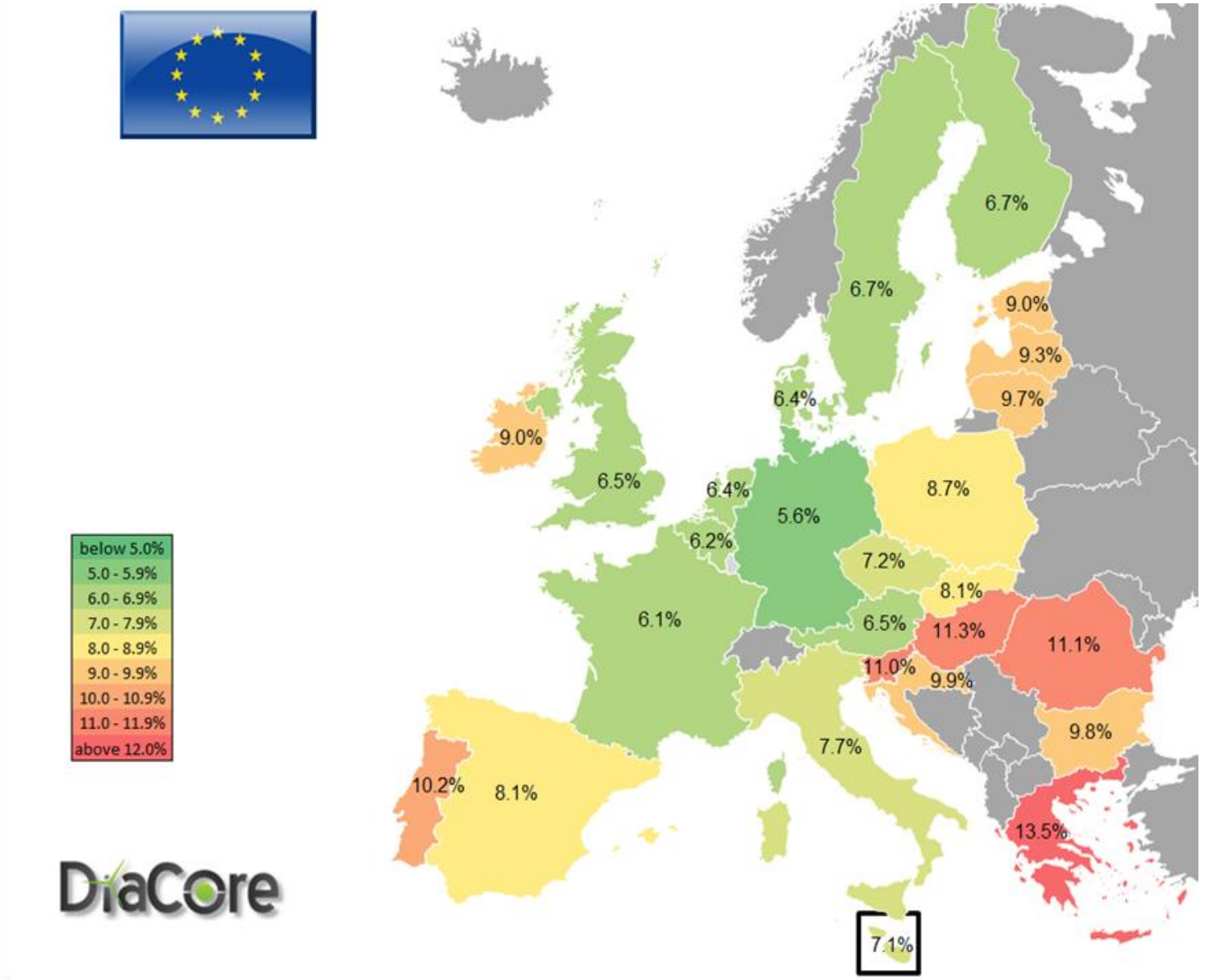
ADAXIA
CAPITAL PARTNERS

bettervest
nachhaltig · effizient · rentabel

DARITY

INVESTOR CONFIDENCE PROJECT

WACC



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Lundi 31 octobre - Mardi 1er novembre 2011 PREMIÈRE ÉDITION N°9418 MERCREDI 2 NOVEMBRE 2011 WWW.LIBERATION.FR

AVANT LE G20, LA SOCIÉTÉ CIVILE SUR LE PONT

Libération

ΧΑΟΣ*

*Le chaos

L'annonce surprise d'un référendum en Grèce sur le plan de sauvetage de Bruxelles sème la panique dans l'UE et menace la zone euro.

Directions

1

Risks

What are the main risks that investors face in a country /sector when investing in energy efficiency energy technologies?

2

Triple-A

What are the Triple-A investments?
(extremely strong capacity to meet their financial commitments, by attaining the expected performance targets)

3

Recommendations

- ✓ What energy efficiency investments are **realistic and feasible** in the country context and each sectors?
- ✓ How they could be **financed in practice**?

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Thank you very much for your attention!

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