



Energy Efficiency

Financial Institutions Group

De-risking Energy Efficiency Investments with EEFIG

Financing energy efficiency in Central and South-Eastern Europe, 28 June 2018

Ivo Georgiev, COWI, ivgg@cowi.com



- Established in 2013 by the European Commission Directorate-General for Energy (DG Energy) and United Nations Environment Program Finance Initiative (UNEP FI).
- It created an open dialogue and work platform for public and private financial institutions, industry representatives and sector experts to identify the barriers to the long-term financing for energy efficiency and propose policy and market solutions to them.
- EEFIG has engaged 120 active participants from 100 organizations to deliver clear and unambiguous messages.



Font Size [Bigger](#) [Reset](#) [Smaller](#)



Source: <http://eefig.eu/>



THE DE-RISKING ENERGY EFFICIENCY PROJECT WITH EEFIG

The EEFIG highlighted among others the following problems:

- **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.

The Commission and UNEP FI have taken these recommendations for the implementation and development of energy efficiency related policies, and the project 'the De-risking Energy Efficiency Investments' which addresses these problems through:

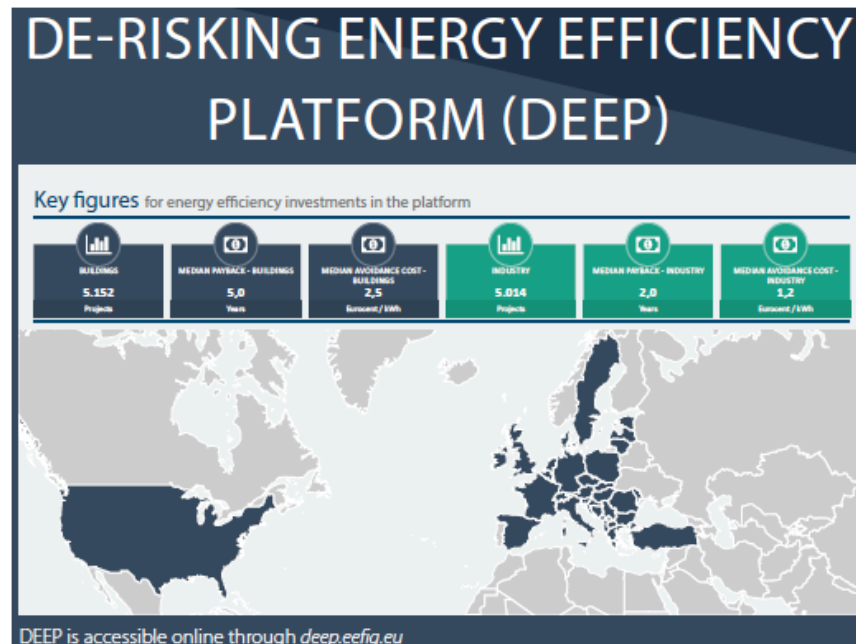
- Creation of an open source database for energy efficiency investments performance monitoring and benchmarking with interpretation of gathered data and investments risk/performance modelling. The database (called “the **EEFIG De-risking Energy Efficiency Platform**” or 'DEEP', www.deep.eefig.eu)
- Development of common, accepted and standardized underwriting and investment framework for energy efficiency investing. A value and risk appraisal framework (called “the **EEFIG Underwriting Toolkit**”, www.valueandrisk.eefig.eu)



DEEP

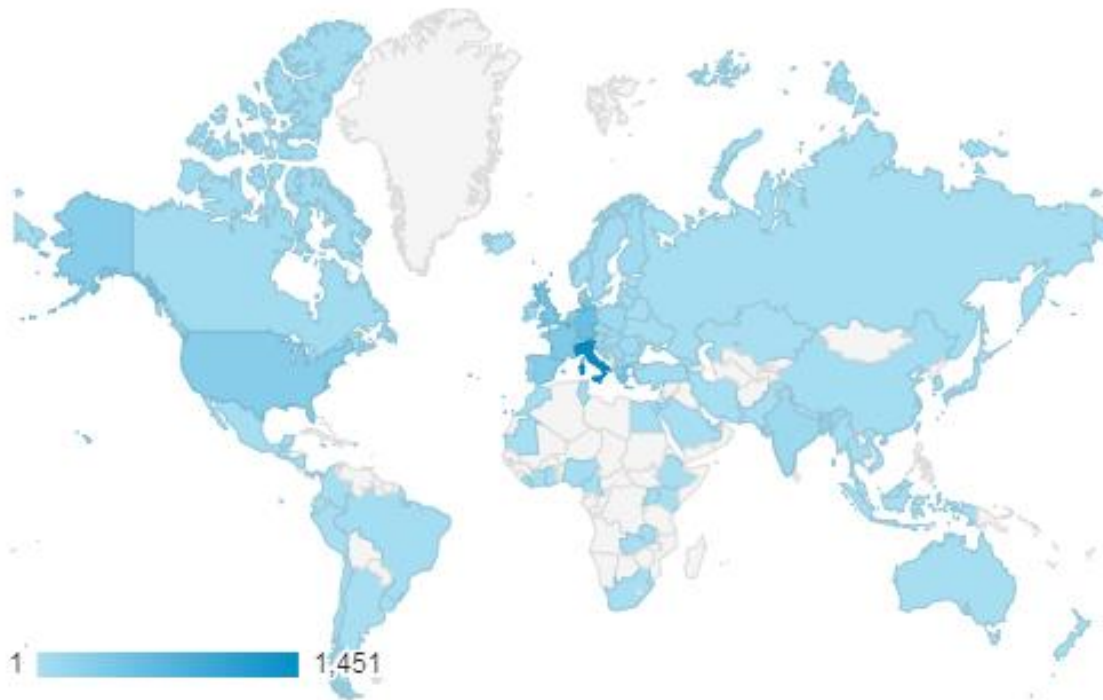
DE-RISKING ENERGY
EFFICIENCY PLATFORM

THE DE-RISKING ENERGY EFFICIENCY PLATFORM (DEEP)



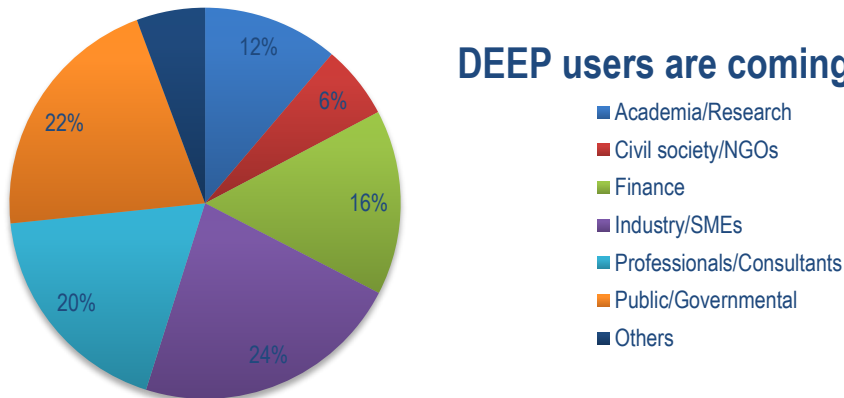
- The largest pan-European data platform for monitoring and benchmarking the performance of energy efficiency investments. It provides evidence on energy saving potentials, payback times and avoidance costs to support the assessment of related benefits and financial risks, based on 10 000+ implemented investments.
- Allows highly customizable comparison of implemented energy efficiency investments for example per country, per measure type, building type and verification. It aims to collect 200+ data points for each energy efficiency investment. This gives a potential of the tool to dynamically model new functionalities presenting additional evidence needed to accelerate investments in energy efficiency in Europe and globally.

A GLOBAL TOOL WITH NEARLY 6500 USERS



	6,465	6,465
	% of Total: 100.00% (6,465)	% of Total: 100.00% (6,465)
1. Italy	1,451	21.86%
2. Belgium	821	12.37%
3. Germany	544	8.20%
4. United Kingdom	422	6.36%
5. France	349	5.26%
6. Spain	321	4.84%
7. United States	298	4.49%
8. Greece	280	4.22%
9. Denmark	200	3.01%
10. Netherlands	162	2.44%
11. Portugal	130	1.96%
12. India	105	1.58%
13. Austria	99	1.49%
14. Poland	98	1.48%
15. Switzerland	80	1.21%
16. Ireland	79	1.19%
17. Romania	70	1.05%
18. Finland	67	1.01%
19. Canada	61	0.92%
20. Croatia	56	0.84%
21. Hungary	52	0.78%
22. Bulgaria	51	0.77%
23. Turkey	50	0.75%
24. Sweden	47	0.71%
25. Luxembourg	45	0.68%

DEEP users are coming from



RESULTS ARE BASED ON ABOVE 10,000 INVESTMENTS



Available investments data for 10,000+ energy efficiency projects (5,152 in buildings and 5,014 in industry), contributed by 25+ data providers.



THE FOLLOWING TYPE OF DATA IS BENCHMARKED

Nature of the organisation	<ul style="list-style-type: none">• public or private bank, IFI, ESCO, technology supplier, host investor (or other)
Sector	<ul style="list-style-type: none">• construction, manufacturing, real estate, transport and other (19 categories)
Organisation size	<ul style="list-style-type: none">• micro, small, medium-sized or large enterprise
Building type	<ul style="list-style-type: none">• single or multi-family family, office, public, hotels, health care, industry etc.
Financing	<ul style="list-style-type: none">• source of financing, total value of asset, value of grant/subsidy, value of loan, interest rate, estimated NPV, IRR etc.
Energy efficiency measure type	<ul style="list-style-type: none">• process heating and cooling, lightning, compressed air, waste heat, power systems, refrigeration, motors, pumps, building fabric measures (e.g. walls, roof, floor, glazing, air infiltration, shading), HVAC, ICT
Data source of consumption	<ul style="list-style-type: none">• before and after the investment (e.g. energy audit, feasibility study or other)
Verification of savings	<ul style="list-style-type: none">• by a third party, ESCO, other or none
Realised non-financial benefits	<ul style="list-style-type: none">• CO₂ reductions, CSR, employee satisfaction, productivity, reduced maintenance, increased asset value, better comfort, health and safety and others

OVERALL AGGREGATED RESULTS



THE EEFIG UNDERWRITING TOOLKIT



- Launched at EU Sustainable Energy Week 2017 with keynote speeches by Maroš Šefčovič, Vice-President, Energy Union, European Commission and Erik Solheim, Executive Director, UN Environment.
- Hard copies and on-line (www.valueandrisk.eefig.eu)
- Resources (www.valueandrisk.eefig.eu/resources)
- Translated into English, German, French, Italian, Spanish and Polish

AUDIENCES

- Senior management
- Valuation and risk teams
- Originators & project developers

OBJECTIVE



This Toolkit aims to assist financial institutions to scale up their deployment of capital into energy efficiency. It was compiled with several objectives in mind:

- to help originators, analysts and risk departments within financial institutions better understand the nature of energy efficiency investments and therefore better evaluate both their value and the risks.
- to provide a common framework for evaluating energy efficiency investments and analysing the risks that will allow training and capacity building around standardised processes and understanding.
- to help developers and owners seeking to attract external capital to energy efficiency projects to develop projects in a way that better addresses the needs of financial institutions.
- to foster a common language between project developers, project owners and financial institutions.



1. “**Financial institutions and energy efficiency**”, sets out the arguments why financial institutions should be interested in deploying capital into energy efficiency, namely: business opportunity, risk reduction, Corporate Social Responsibility, and regulatory pressure.
2. “**Financing Energy Efficiency**”, sets out the different ways in which energy efficiency can be financed and the types of structures and contracts that can be used. It is aimed primarily at origination teams and project developers.
3. “**The Project Life Cycle**”, describes the overall process of developing and executing an energy efficiency project.
4. “**Value and Risk Appraisal**”, identifies the various sources of value that can be created by energy efficiency projects (including non-energy benefits).
5. An **on-line Resources** which can be used to access more detailed information on specific topics.

ENERGY EFFICIENCY BENEFITS/VALUES



The Toolkit explains the multiple benefits/values (additional value beyond the pure energy saving) created by energy efficiency projects.

- Energy
 - Savings
 - Reduced impact of energy price volatility
 - Reduced need to spend capex
- Non-energy
 - Asset value
 - Productivity
 - Health & well-being
 - Etc etc
- Non-energy benefits can be much more strategic and attractive to decision makers than just energy savings.
- Financial appraisal needs to identify and value all benefits.



ENERGY EFFICIENCY RISKS AND MITIGATION STRATEGIES



The Toolkit explains the following sources of common risks in energy efficiency projects and discusses possible risk mitigation strategies:

- Performance risks
- Design risks
- Equipment risks
- Operational and maintenance risks
- Weather risks
- Changes in hours of use, production volume and patterns of building usage
- Energy price risks
- Construction risks (and credit risks during construction/installation)
- Risks associated with other costs and benefits
- Regulatory risks
- Consumer credit law risk

FOR MORE DETAILS - SEE THE ONLINE VERSION



EEFIG UNDERWRITING TOOLKIT Value and Risk Appraisal for Energy Efficiency Financing

A tool to assist financial institutions to scale up the deployment of capital into energy efficiency



Introduction



Financial Institutions
and Energy Efficiency



Financing Energy
Efficiency



The Project Life Cycle



Value and Risk
Appraisal



Resources



“ I strongly recommend this toolkit to project promoters, banks, financial institutions and anyone else interested in financing energy efficiency.
Foreword by Maroš Šefčovič, European Commission VP



“ I recommend this toolkit to any policy maker, investor, business, developer or citizen seeking a more inclusive, green economy.
Foreword by Erik Solheim, UN Environment

<http://eefig.eu/index.php/underwriting-toolkit>



Thank you.

Ivo Georgiev
Project Manager at COWI Economics & Management
ivgg@cowi.com