



Energy Efficiency Standards for sustainable financing

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Financing Energy Renovation of Buildings in Italy, Croatia and Slovenia Rome May 24 2018



Agenda



The dimensions of energy efficiency improvement in buildings

- Energy efficiency standards
- Financeability of energy efficiency improvement actions
- Alignment and integration of Energy Efficiency Process and financial processes



Take Aways

The standardization framework for Energy

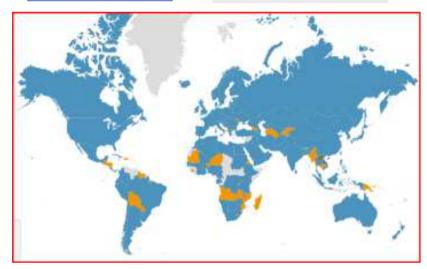


















Standardization in Eu

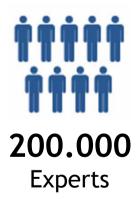




1 European standard replaces 34 national standards

Gives market access to 600 mio consumers









Energy efficiency & management standards



Energy Efficience improved Actions dergy

De risk
Energy
Efficiency
improvement

Support Decision Making

Streamline

processes

Deliver
Sustainable
Energy
Efficiency
Improvement

The tools to effective decision making on sustainable energy efficiency projects



Audit EE Improvement Construction Operation & Measurement & Borrower Lender Engineering Baseline evaluation Commissionin maintenance Verification Value creation Value chain enabling Value capturing EPBD 2010/31/EU **EN 16247** Energy ISO 17741 Energy Borrower credit EXEED IS. 399 Energy **EXEED Verified** Audit. General technica Performance Energy worthiness Efficient Design Designed Certification of an 1 General rules for Certificates Performance certifies the asset Management asset against requirements measurement. Certificates Energy Saving to has designed measured and Buildings calculation and Labelling investment Ratio constructed, verified eneray Processes verification of Directive commissioned. performance with Transport energy savings of 2010/30/EU operation and quantified avoided 5 Competence of projects Good ISO 17743 handover to the energy energy auditors Engineering General owner/operator consumption (3 practices and quantification ISO 17743 EN 115900 methods for tools: Energy Saving. Energy ASHRAE, EN. ex ante or expected Energy Debt Coverage Definition of efficiency Performance IEC, standards. energy savings Ratio methodological Sservices National ISO 55001 Contracting framework standards. Asset Probability of applicable to EN 16231 **TEGoVA** management technology Default calculation and Energy European Valuation provider Procurement efficiency reporting on auidelines Loan to Value contract energy savings benchmarking ISO 15331 NEB: Criteria for design ISO 50015 EMS. EN 15232 Computationa management and M&V of energy ISO 50006 EMS Energy I method. control of performance for Measuring energy Performance of Comparative maintenance organizations ebt to Income performance using building, Impact Valuation. services for ratio **EXEED** energy baselines and of BACs and Willingness to buildings Managed energy performance **TBMs** pay, ... Financial indicators. General Certification of Maintenance institutions principles and M&V protocol **UNI 11588** Property contract own risk quidance professional valuers and energy assessment performance and and evaluation continual UNI 11612 criteria improvement (>3 (performance and Property Assets credit risks) Valuation **EVO IPMVP**

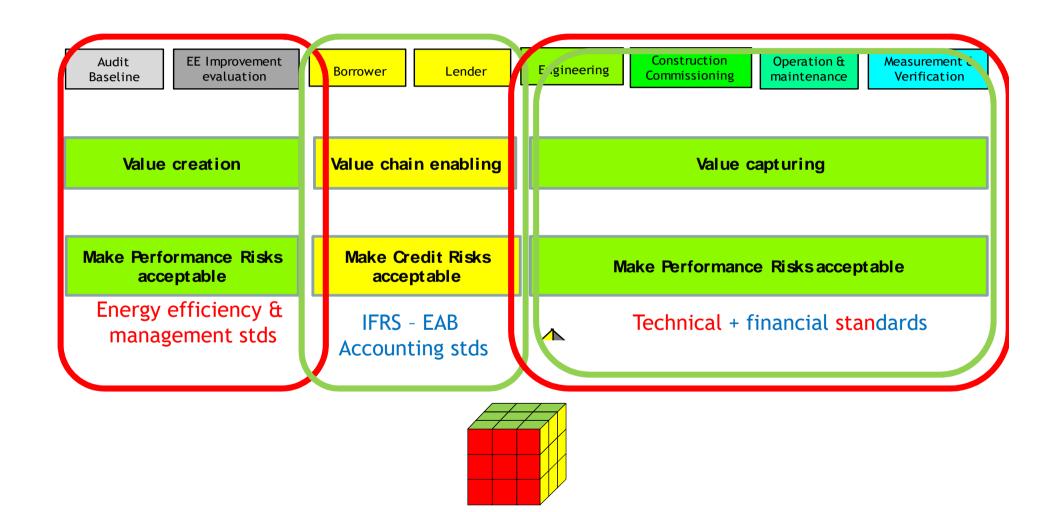
UNI CEI 11339 Energy Management Expert

Non Energy Benefits

EN 15900 Energy Efficiency Services. Definition and requirements **UNI CEI 11352** Energy Service Company. Minimum requirements

De-Risking framework using standardized and integrated processes

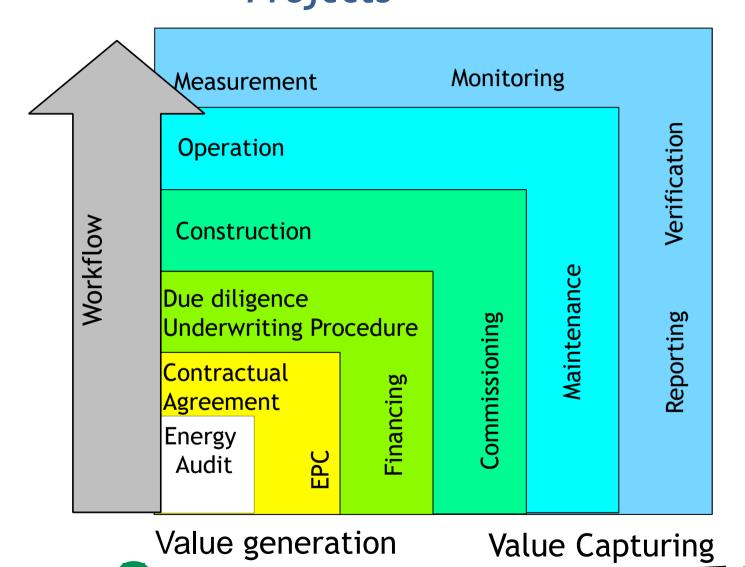




Remove uncertainty to support decision making

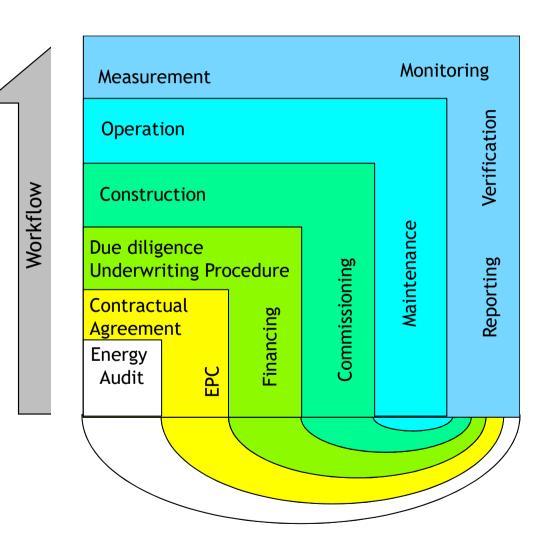
Integrated framework for sustainable EE Projects

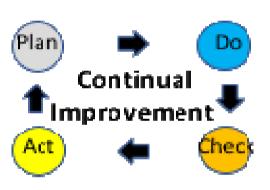




Continuous improvement of sustainable EE improvement actions

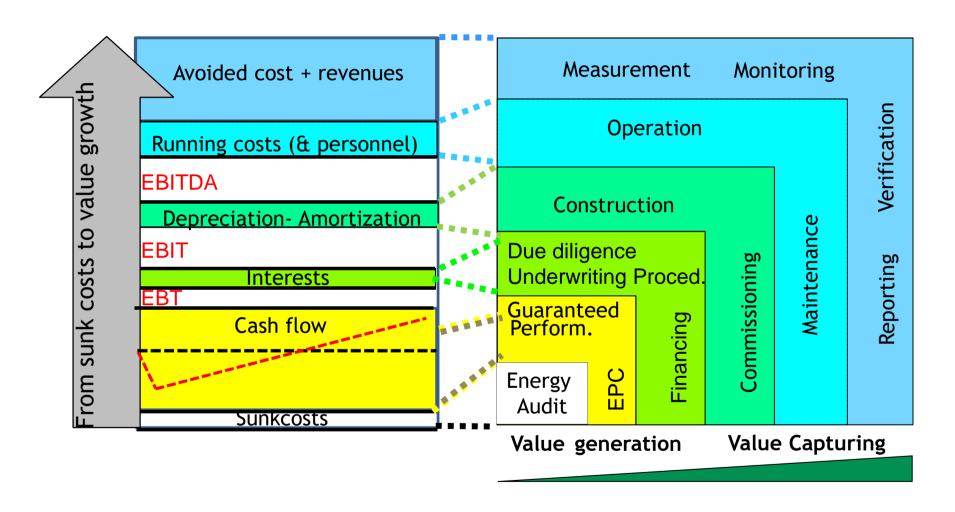






From EE projects to sustainable financing Simple Transparent Standardized





The value chain is multiplicative: is as good as the weakest component

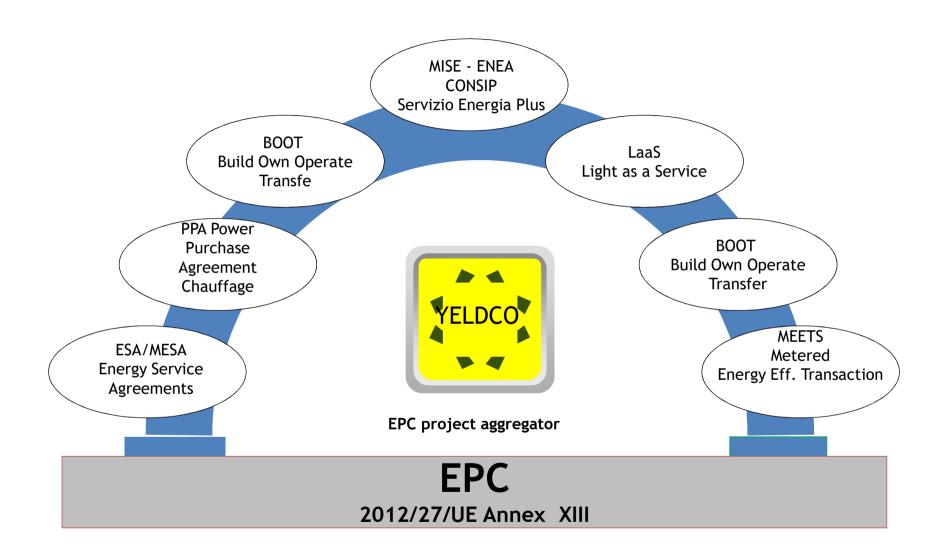


Technical Foundation	Business Foundation	Technical / Business Foundation		
Energy Audit + EPC	Financing	Construction - Commissioning	Operation & maintenance	Measurement & Verification
MeasurementModellingEnergy efficiency improvement	 Due diligence Underwriting Procedures Business risks Credit worthiness 	 Design for energy efficiency Project management Commissioning 	 Operate for energy efficiency Maintain for energy efficiency 	MeasurementMonitoringReporting

 $(R_{Audit} \times R_{Financing} \times R_{Construction} \times R_{O\&M} \times R_{M\&V}) \times Value Creation = Value Captured$

Energy Service Business Models

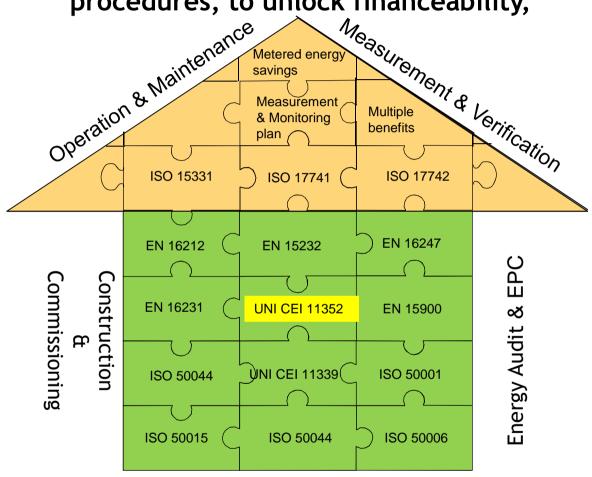




Alignment, Engagement, Commitment



Align policies, Energy service models, de risking tools, accounting procedures, to unlock financeability,

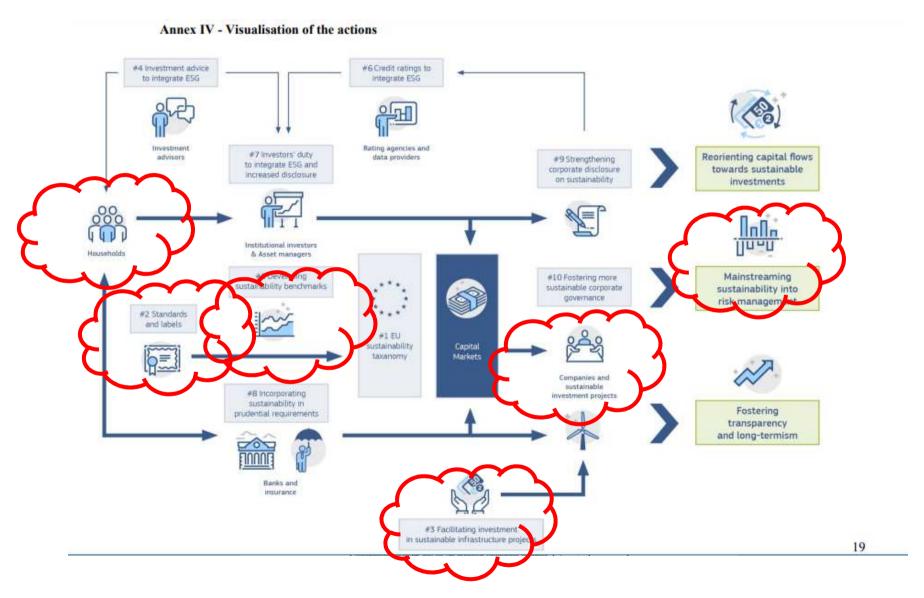


Third Party Financing

Streamlined process for energy efficiency project and underwriting procedures

EC Financing Sustainable Growth - Actions





Source: https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth_en.pdf

EBA Consults on its guidelines interpreting STS criteria for risk assessment (1)





 April 28, 2018 European Banking Authority opens the consultation process on STS criteria

STS criteria: Simple, Transparent, Standardized

 The Guidelines will be applied on a cross-sectoral basis throughout the Union with the aim of facilitating the adoption of the STS criteria, which is one of prerequisites for the application of a more risk-sensitive regulatory treatment under the new EU securitisation framework.

The need to foster effective integration of technical and financial processes (1)



«The specification, monitoring and reporting of the Partner's maintenance obligations is typically in addition to (but can be combined with) the specification, monitoring and reporting of the performance of the EPC assets in delivering the energy consumption and/or cost savings required under the EPC.

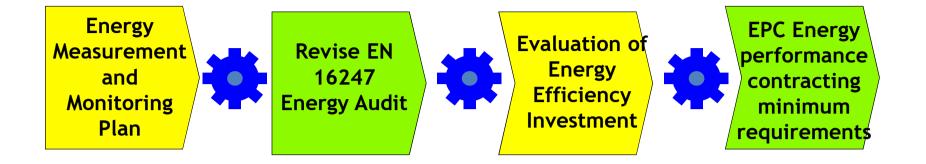
Eurostat's view is that:

• omissis,

An EPC that **does not** meet either of these conditions **does influence** the statistical treatment and is automatically ON BALANCE SHEET for government.»

Planned standardization activities





Emerging needs

- Integration of energy efficiency solutions with clean energy sources
- Energy Efficiency processes digitalization
- Green finance
- Energy Storage
- Energy management through ESCO programs (capacity building)

Sustainable Growth

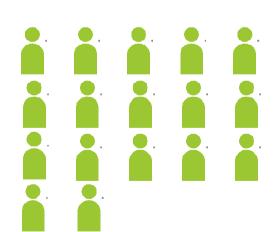


1 million €120-160 MWh/a



40-70 t/a CO2 _{av}

new jobs

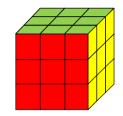


Source: Elaboration from Multiple benefits of investing in energy efficient renovation of buildings Copenhagen Economics,
Boosting Building Renovation: What potential and value for Europe ITRE
IEEP Review of costs and benefits of energy savings

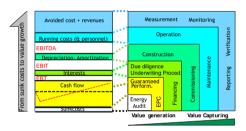
Take Aways



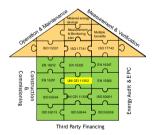
 Technical Standards are business tools to de-risk energy efficiency actions



 Integrated technical and financial processes requirements: Simple, Transparent, Standardized



 Market actors engagement to ensure adherence to a formalized and shared processes to ensure financeability





Thank you

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