



# Monitoring of Energy Efficiency Policies in Italy



LCS-RNet 11<sup>th</sup> Annual Meeting  
Rome, 17-18 October 2019

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ENE A - Italian National Agency for New Technologies, Energy and Sustainable Economic Development - Energy Efficiency Department

# Clean Energy for All Europeans Package



**2030-2050**  
**RENEWABLES**  
**ENERGY**  
**EFFICIENCY**  
**GOVERNANCE**

#CleanEnergyEU



Stimulate and facilitate the clean and fair energy transition in Europe the package pursues three main objectives:

- energy efficiency first
- world leadership in the field of renewable energy
- fair treatment of consumers

On 4<sup>th</sup> June 2019 the Council of Ministers of the European Union adopted the latest legislative proposals foreseen by the package, sanctioning an important step towards the completion of the Energy Union.

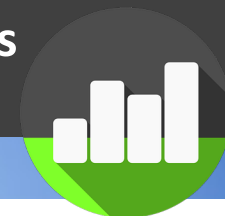


## latest legislative proposals:

- Energy efficiency Directive 2018/2002
- Energy Performance of Buildings Directive 2018/844
- Energy Use Promotion from FER Directive 2018/2001
- Governance Regulation on the Union of Energy and Climate 2018/1999
- Internal Electricity Market Regulation 2019/943
- Common Norms on Internal electricity market Directive 2019/944
- Risk preparation regulation in the electricity sector 2019/941
- Regulation establishing the ACER European Union Agency 2019/942



# building stock: fundamental dimension for the energy efficiency policies



Buildings

European Commission

"Buildings are fundamental elements for the Union's energy efficiency policies as they represent around **40% of final energy consumption**"

Member States shall ensure that are **nearly-zero energy buildings (nZEBs)**:

- from 1<sup>st</sup> January 2019: all new buildings owned/occupied by public bodies
- from 1<sup>st</sup> January 2021: all new buildings

Directive UE 2010/31/UE Energy Performance of Building Directive

Programme of interventions for the improvement of the energy performance of buildings of the Central Public Administration, in order to **renovate at least 3% per annum of the air-conditioned useful covered area** or, alternatively, achieve a cumulative energy saving in the period 2014 - 2020 of at least 0.04 Mtep

Italy's Legislative Decree 102/2014



EU Directive 2018/844 Improvement of energy performance of buildings

Prioritizing renovation and nZEBs, consolidating the financial component and promoting private investments, encouraging the use of information technology for efficient buildings, and **ONE-STOP-SHOP**

# National Energy and Climate Plans – The Italian Proposal



**Essential guide to address investments** where Energy Efficiency is a transversal tool for all strategic sectors, environmental protection, improving energy security, and reducing public administration, business and end-users costs.

ITALY

Ministero dello sviluppo economico

January 2019

**NECP**  
PROPOSAL OF AN INTEGRATED PLAN FOR ENERGY AND CLIMATE

**national objectives and perspectives on energy end-uses and climate protection in a ten-year perspective**

## NECP proposal structured according to the 5 Dimensions of the Energy Union and Climate 2018

- Decarbonisation
- Energy efficiency
- Energy security
- Internal Energy Market
- Research Innovation Competitiveness

**Towards an Energy Union**

secure clean affordable energy

**5. NEW TECHNOLOGY FOR TOMORROW'S ENERGY**

**TODAY:** The EU has LOST GROUND on clean, LOW-CARBON TECHNOLOGIES.

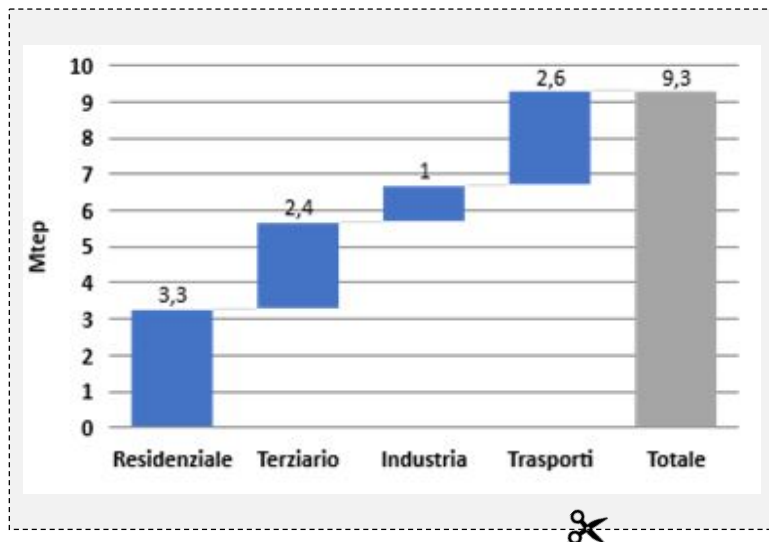
**WITH THE ENERGY UNION:** LOWER BILLS for EU citizens.

**EUROPEAN COMPANIES** to be world leading on renewable and low-carbon technologies.

**#EnergyUnion**



## Italy - Energy efficiency target



As regards the energy efficiency target, at 2030 Italy aims to pursue an indicative consumption reduction target equal to **43% of primary energy** (39.7% in terms of final energy) compared to the reference scenario, with a **target for the final consumption reduction of at least 0.8% per annum in the period 2021-2030**, as required by article 7 of the Energy Efficiency Directive of December 11th, 2018.

**The national energy consumption expected in 2030 is equal to 132.0 Mtoe of primary energy**

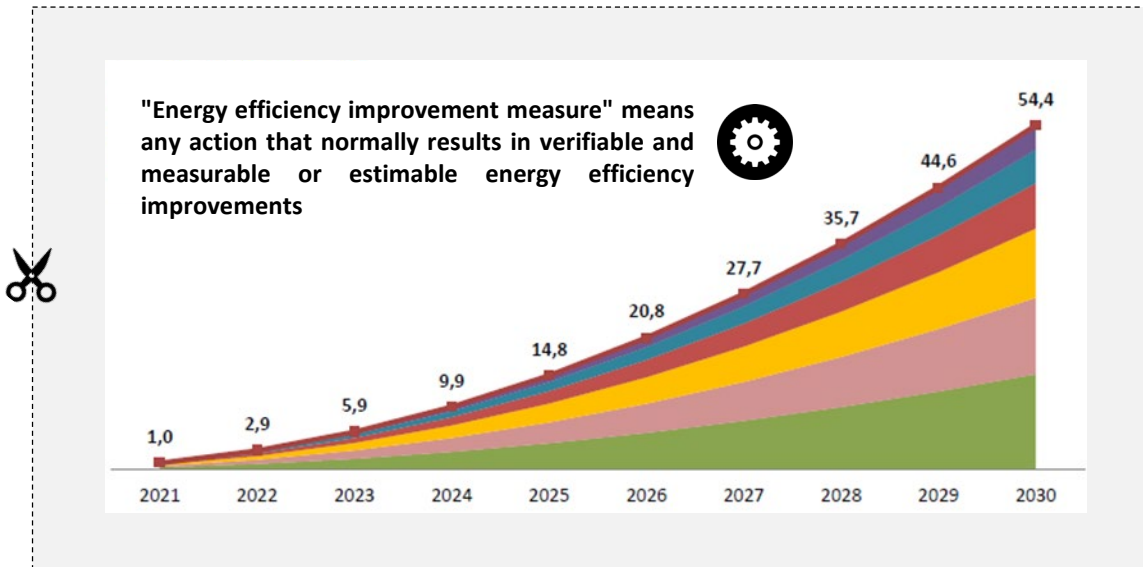
The proposed scenario, in addition to the provisions of the aforementioned Energy Efficiency Directive, also provides for the achievement of targets relating to renewable sources and decarbonisation, leading to a **reduction in final energy consumption by active policies of approximately 9.3 Mtep / year at 2030**, splitted among different economic sectors.

# energy efficiency measures to meet the 2030 target



- White Certificates
- Transports
- BONUS CASA
- ECOBONUS
- National Energy Efficiency Fund
- Thermal Account

The policy measures to be adopted and the instruments to be used to achieve the expected savings: the main shares derive from the obligation scheme of the **White Certificates** and the **incentives for the energy renovation of existing buildings**.



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# summary of energy savings achieved in the 2011-2018 period



With respect to the objective set for the period 2011-2020, indicated in the Action Plan for Energy Efficiency of 2017 and consistent with the National Energy Strategy of the same year, the **energy savings achieved in 2018 is equal to approximately 10.4 Mtep / year**, more than two thirds of the final target. It derives for over a quarter from both the **White Certificates** and from **tax deductions schemes**. At sectoral level, the residential sector has already largely exceeded the target set for 2020; industry and transport are halfway through the planned path. More than two thirds of the target expected by 2020 was achieved.

Settore	White Certificates	Tax deductions	Thermal Account	Impresa 4.0 Programme	EU Cohesion Policy	Training & Information	Marebonus	Decree 192/05 and 26/6/15 **	Other ***	Energy saving		Target achieved (%)
										Achieved 2018**	Expected in 2020	
Residential	0.67	2.70	-	-		0.03		1.34	0.30	5.04	3.67	137.3%
Tertiary	0.14	0.03	0.08	-	0.02	0.01		0.04	-	0.31	1.23	25.6%
Industry	1.97	0.04	-	0.44	0.20	0.03		0.08	-	2.75	5.10	54.0%
Transport	0.01	-	-	-	0.00		0.06	-	2.22	2.29	5.50	41.6%
<b>Total</b>	<b>2.79</b>	<b>2.76</b>	<b>0.08</b>	<b>0.44</b>	<b>0.21</b>	<b>0.07</b>	<b>0.06</b>	<b>1.46</b>	<b>2.52</b>	<b>10.39</b>	<b>15.50</b>	<b>67.0%</b>



# energy audits in the industry sector: 2015-2018 results and energy saving potential

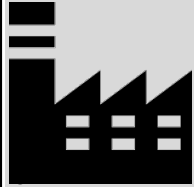


**16,105** Audits of production sites  
**8,870** Enterprises involved

The energy saving potential deriving from interventions characterized by **payback period of up to 3 years** is considerable: through approximately **11,000 interventions** energy savings of around **0.9 Mtep / year** are possible, compared with around **770 million euros of investments**.

Approximately **7,300 interventions** were identified in the **manufacturing sector**, for a saving of approximately **0.7 Mtoe / year**, compared to approximately **580 million euros of investments**.



	Number of companies	Audited sites	ISO50001 Companies	Large companies	Energy intensive companies	Interventions with a payback period of less than 3 years	Savings (ktep / year)	Investments (M€)
A - agriculture, forestry and fishing	63	111	2	56	1	61	2.7	2.5
B - mining of quarries and mines	46	82	2	23	24	37	5.8	3.6
C manufacturing activities	5,305	7,334	120	2,805	2,705	7,289	672.8	584.6
D - supply of electricity, gas, steam and air conditioning	234	511	11	200	10	210	43.2	35.4
E - water supply; sewerage, waste management and remediation activities	328	961	13	266	33	333	27.8	21.6
F - buildings	168	351	14	150	4	105	10.2	7.0
G - wholesale and retail trade; repair of motor vehicles and motorcycles	900	2531	6	775	37	1333	26.9	23.9
H - transport and storage	417	961	9	364	38	371	52.6	36.9
I - activity of accommodation and catering services	123	327	4	85	4	151	3.3	3.8
J - information and communication services	157	669	5	140	9	277	21.3	22.9
K - financial and insurance activities	250	621	7	242	2	172	2.7	2.5
L - real estate activities	61	121	1	49	4	56	2.4	2.5
M - professional, scientific and technical activities	239	328	5	211	7	108	3.7	2.7
N- rental, travel agencies, business support services	240	465	2	215	8	116	1.4	1.2
Q - health and social assistance	224	480	3	200	17	252	16.3	17.4
R - artistic, sporting, entertainment and fun activities	61	137	0	41	5	81	1.5	1.7
Other	55	115	2	40	5	60	1.7	1.4
<b>Total</b>	<b>8,871</b>	<b>16,105</b>	<b>206</b>	<b>5,862</b>	<b>2,913</b>	<b>11,012</b>	<b>896.3</b>	<b>771.6</b>



# construction sector: a great potential for the energy performance improvement in Italy



Renovating and making energy efficient buildings, both public and non-public, is a strategic work: it is necessary to implement ideas, solutions and effective actions, as the result of a careful study.

- **10 billions euros of investments per year on the energy renovation of buildings**
  - **800 thousand jobs in the green economy in 2020-2025 to achieve the objectives set by the new EU Directives on EE**
- +** according to an assessment of the Chamber of Deputies, the extension of national incentives foreseen in the 2019 Budget Law will generate:

● **23 billion euros of investments in the construction sector in addition to the employment generated and energy saving**

[www.acs.enea.it](http://www.acs.enea.it)  
[www.finanziaria2018.enea.it](http://www.finanziaria2018.enea.it)  
[www.ristrutturazioni2018.enea.it](http://www.ristrutturazioni2018.enea.it)

	1	2	2	4
	<b>ristrutturazione edilizia</b>	<b>riqualificazione energetica</b>	<b>riqualificazione energetica</b>	<b>Ecobonus + Sismabonus</b>
	<b>unità abitativa</b>	<b>Ecobonus unità abitativa</b>	<b>Ecobonus condominio</b>	<b>condominio</b>
<b>detrazione fiscale</b>	<b>50%</b>	<b>50-65%</b>	<b>70-75%</b>	<b>80-85%</b>

# tax deduction schemes managed by ENEA



The quantitative assessment of the savings achieved was carried out with reference to the objectives for the period 2011-2020 defined in the Action **Plan for Energy Efficiency of 2014** (PAEE 2014) and subsequently confirmed as part of the 2017 **National Energy Strategy**. 2014-2018 period also shows the estimate of energy savings achieved for the fulfillment of Article 7 of the EU Energy Efficiency Directive.

In 2018, ENEA received over 300,000 application to access the incentive of **ECOBONUS** (specifically addressed to the energy renovation of existing residential buildings), and around 390,000 applications to access the incentive of **BONUS CASA** (addressed to the general refurbishment of existing residential buildings, related to the energy performance of the building as part of larger renovations).

The share of private investments in building renewal conveyed by tax incentives has been in recent years around 60% of the total investment activated.

## Ecobonus 2018: interventions, investments (million of euro, M€), savings (Final energy, GWh/anno), useful life (years) and cost effectiveness (€/kWh)

Intervento	n.	M€	GWh/a	Vita utile	€/kWh
Condomini	477	55,5	18,3	30	0,10 €
Riqualificazione globale	2.674	249	72	30	0,11 €
Coibentazione involucro	25.267	901	326	30	0,09 €
Sostituzione serramenti	138.790	1.072	381	30	0,10 €
Schermature solari	70.491	128	14	30	0,26 €
Pannelli solari per ACS	5.578	36	28	15	0,09 €
Climatizzazione invernale	89.262	873	309	15	0,20 €
Building automation	2.307	17	8	10	0,19 €
<b>Totale</b>	<b>334.846</b>	<b>3.331</b>	<b>1.155</b>		

## Bonus Casa 2018: interventions for which ENEA received a request for the access to the incentive

Tecnologia/intervento	n.	%
Pareti verticali	10.995	2,8%
Pareti orizzontali e inclinate	9.830	2,5%
Serramenti	124.268	32,1%
Solare termico	1.909	0,5%
Caldaia a condensazione	108.379	28,0%
Impianto biomassa	21.268	5,5%
Pompa di calore	100.453	25,9%
Building Automation	7.221	1,9%
Scaldacqua a pompa di calore per acqua calda sanitaria	2.016	0,5%
Altro	1.289	0,3%
<b>Totale</b>	<b>387.628</b>	<b>100%</b>



## Summary of the regulatory evolution concerning Tax-Credit Transfer

Anno di spesa	Tipologia di interventi	Destinatari	Provvedimento Agenzia delle Entrate
2016	Riqualificazione di parti comuni di edifici condominiali (aliquota 65%)	Soggetti incapienti	Prov. 22/03/2016
Dal 01/01/2017 al 31/12/2021	Riqualificazione energetica effettuata sulle parti comuni di edifici che interessino l'involucro dell'edificio con un'incidenza superiore al 25 % della superficie disperdente lorda dell'edificio medesimo (aliquota 70%)	Soggetti incapienti;  Soggetti diversi dai soggetti incapienti	Prov. 28/08/2017
	Riqualificazione energetica relativi alle parti comuni di edifici finalizzati a migliorare la prestazione energetica invernale ed estiva (aliquota 75%)		
	Riqualificazione energetica e Interventi per riduzione rischio sismico (aliquote 80 e 85%).	Soggetti incapienti;  Soggetti diversi dai soggetti incapienti	Prov. 18/04/2019  (che rimanda al Prov. 28/08/2017)
A partire dal 1/01/2018	Riqualificazione energetica in singole unità immobiliari (aliquote 50 o 65%).	Soggetti incapienti;  Soggetti diversi dai soggetti incapienti	Prov. 18/04/2019

To facilitate the use of tax deductions for energy renovation measures, pursuant to law 296/2006, from 1 January 2016 the **Tax-Credit Transfer mechanism** was introduced within the **ECOBONUS** incentive scheme.

**Starting from 1<sup>st</sup> January 2017**, the law 11/12/2016 n. 232 also provided for the possibility, for all taxpayers, to opt for the assignment of credit for the energy renovation actions on the common parts of the envelope of the condominium.

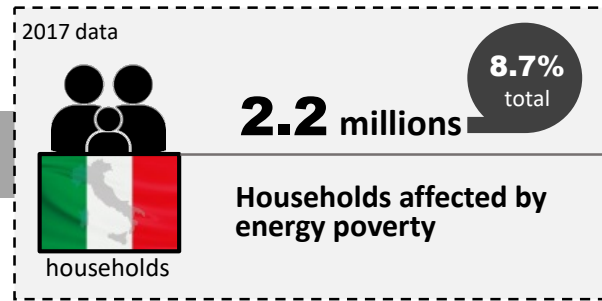
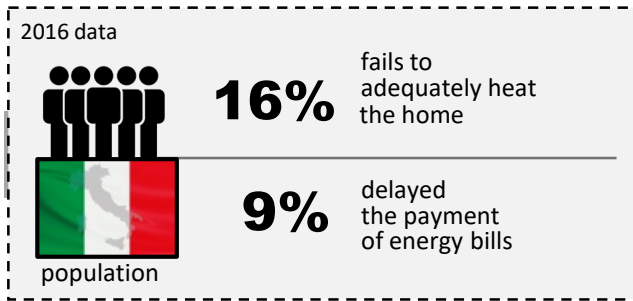
The tax-credit transfer can be claimed when the surface involved in the action is greater than 25% of the dispersing surface. The tax-credit transfer option was redefined by the law 21/06/2017 which, only for people in the no-tax area, did not exclude the transfer to banks and financial intermediaries.



# ENEA role and contribution to the «inclusive Energy»



**ENERGY POVERTY:** «A situation in which a family or an individual is not able to pay for the primary energy services (heating, cooling, lighting, movement and electricity) necessary to guarantee a decent standard of living, due to a combination of low income, high energy expenditure and low energy efficiency in their homes»



Adoption of measures for energy poverty:

- initiatives and projects
- behavioral change

10 Novembre 2017

**NECP 2019**

PROPOSAL OF AN INTEGRATED PLAN FOR ENERGY AND CLIMATE

goals and perspectives of national legislation about energy end-uses and climate protection in a ten-year perspective

**European Energy Network**  
A voluntary network of European energy agencies

**ENEA Presidency 2018**

Voluntary network of national energy agencies of the countries of the European Union and some non-EU countries

**Alleanza contro la povertà energetica**

**ENEA in the CALL TO ACTION**

Local authorities - Regions of Common Provinces Credit Institutions - Investors Public Management Company Adiconsum - Industry Associations

**European Energy Network**

**POSITION PAPER**

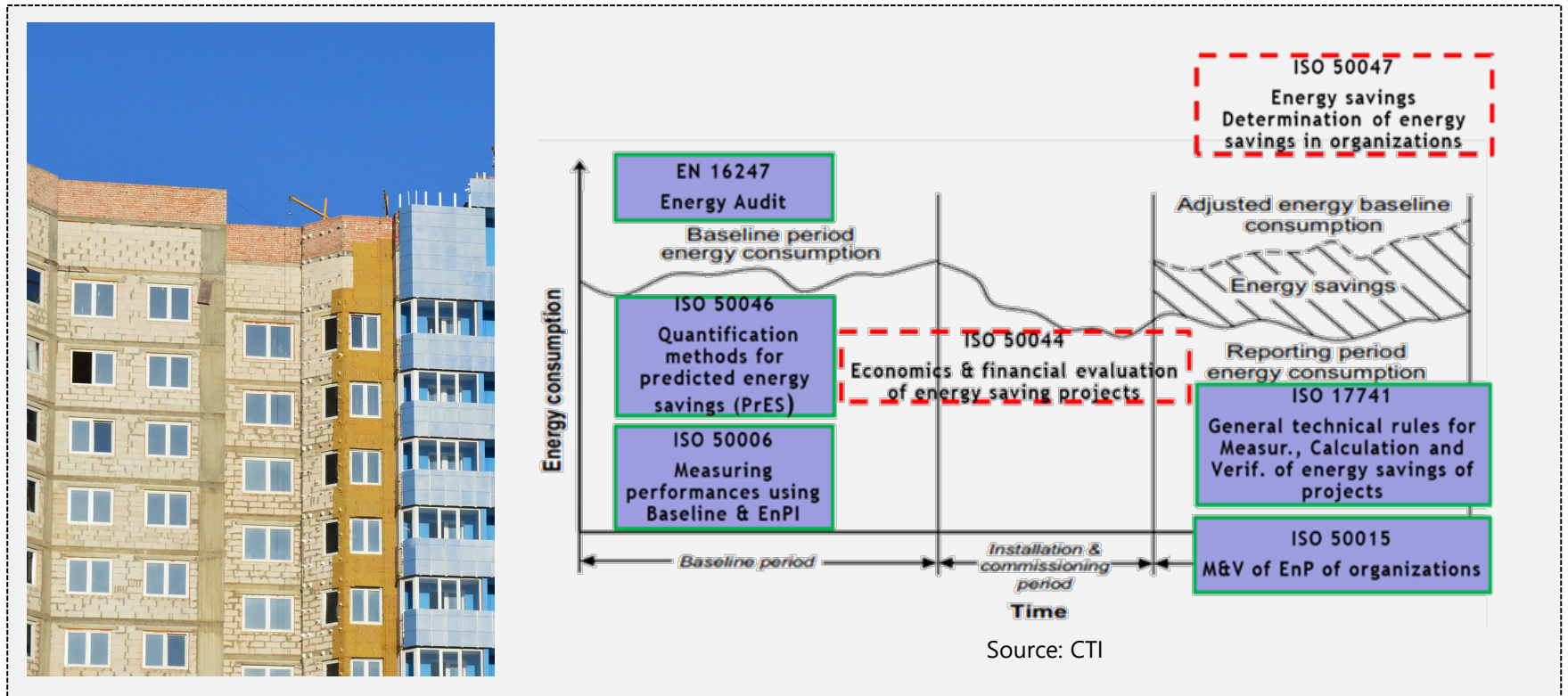
- 
- Dissemination of good practices to promote knowledge and access to available incentives for EE
  - support in reading and simplifying the bill
  - education on the sustainability and energy efficiency of buildings
  - creation of synergy on different initiatives / campaigns

Adoption of measurement parameters of the phenomenon common to all EU countries, taking into account the national peculiarities and greater attention to the local dimension of the phenomenon and to the evaluation of the costs of long-term measures

# technical standards as an effective tool for the de-risking of energy efficiency investments in the renovation of existing buildings



The **technical standards** currently include all the phases of implementation of an action to improve Energy Efficiency for the entire life of the project and therefore for the entire duration of the loan granted. They can be used **as tools to reduce financial risk**, as they are based on criteria of transferability, essentiality, transparency and sharing of data and information.



# One-stop-shop for the energy renovation of buildings

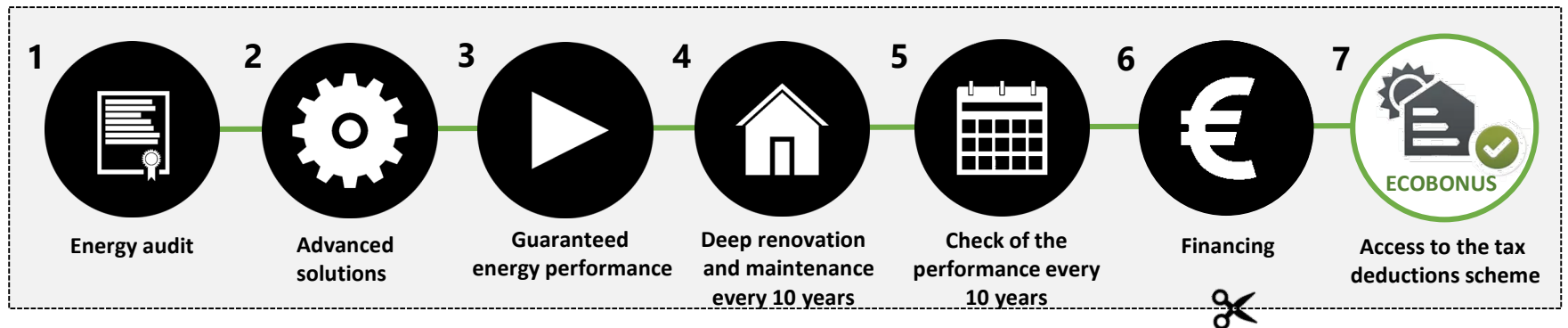


Member States have to implement the new provisions of Directive 2018/844 by 10<sup>th</sup> March 2020

The current measures implemented at national level focus a lot on the energy renovation of private condominiums; this area finds the greatest **difficulty in unblocking the demand**, not only due to the **lack of awareness** of the multiple benefits linked to the energy efficiency of homes, but also to the **cultural and economic diversity of the owners/tenants** that make it difficult to reach a common decision on energy efficiency actions aimed at energy saving and the revaluation of the building stock.



The objective is to create, and subsequently replicate, **innovative services for the energy renovation** in the residential sector. To achieve this, local **one-stop-shops** will be created to provide citizens with **information, technical assistance, availability of financial support, contractual tools and monitoring of savings** achieved through the implemented actions. The project will not directly finance the renovation of the buildings, but will create a **local network to facilitate the implementation of the actions** by creating a pool of companies and proposing financial solutions. These activities will be carried out through the comparison with local stakeholders: builders, building managers, trade associations, credit and financing institutions.






# 3-year Information and Training Programme



**2018 objective:** to mitigate the effects of information asymmetry in the markets, thus supporting end-users and institutions in the decision-making process to make consumption and investment choices effective, removing obstacles to the implementation of virtuous behaviors that optimize the available resources, from both an individual and social point of view.



## Available methods for the quantification of information campaign results in EU

-  no methodology
-  availability of a methodology that does not include the assessment of energy savings
-  availability of a methodology through which energy savings are assessed



Only **eleven countries** developed a methodology for assessing energy savings: **Italy** is among them, with an ad hoc methodology for evaluating information campaigns addressed to businesses and households.



# Italy's Annual Energy Efficiency Report 2019 of ENEA: an effective planning and monitoring tool



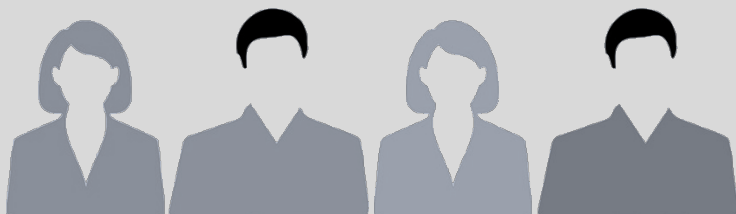
## Italy's Annual Energy Efficiency Report

Foreseen by the  
Legislative Decree  
115/2008

- analysis of the achievement of national indicative energy saving targets.
- analysis and monitoring of incentive schemes and additional tools activated at regional and local level.
- analysis of the results achieved within the regulatory framework for the simplification of the authorization procedures, for the definition of minimum energy efficiency obligations and standards, for access to the network of efficient user systems.
- analysis of improvements and results achieved in the various sectors and for the various technologies, including economic assessments on the profitability of the various investments and energy services.
- analysis and mapping of energy efficiency levels in the various areas of the national territory also using the results obtained from the actions implemented by the regions and autonomous provinces.
- identification of any additional necessary measures, including possible further economic and fiscal measures, to facilitate the pursuit of national objectives.
- analysis on consumption and savings obtained at regional level.
- additional and necessary assessments on analyses and measures.



# Italy's Annual Energy Efficiency Report 2019



**THANK YOU**  
for your kind attention

For any information please do not hesitate to contact me:

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Link to the 2019 annual report:

<http://www.enea.it/it/seguici/pubblicazioni/edizioni-enea/2019/rapporto-annuale-efficienza-energetica-2019>

