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ODYSSEE-MURE

First meeting of the project “*ODYSSEE-MURE,  
Monitoring EU Energy Efficiency First Principle and Policy  
Implementation*”  
16-18 December 2019, Berlin, Germany

# Evaluations of the tax credit and audits schemes in Italy

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# OVERVIEW

- Incentive schemes in the existing residential sector
- Energy audit obligation in the industry sector
- Training & Information Programme
- Achieved energy savings (EED art.7)

# Incentive schemes in the existing residential sector



# ECOBONUS – The measure/1

Since 2007, tax deductions scheme for the energy renovation of existing residential buildings resulted as a key driver of energy efficiency improvements in the housing sector, with more than 3.6 million of implemented actions, and almost 38.8 billion euros of leveraged private investments.

# ECOBONUS – The measure/2

The Budget Law 2018 changed the deduction rates for some actions and extended the possibility of tax credit transfer to all taxpayers and all eligible actions: tax credit can be transferred to suppliers who implemented works or to other private entities, with the possibility of an only one subsequent transfer to other entities than suppliers, as long as they are linked to the works that implied the tax deduction. For taxpayers out of the no-tax area, credit cannot be transferred to credit institutions and financial intermediaries.

# ECOBONUS – Eligible actions at building level

Eligible actions at building level

Code	Action	Maximum eligible deduction (€) (^)	Maximum eligible expense (€)	Deduction (%)
344	Reduction of heating energy demand of the whole building	100,000.00		65%
345	a) insulation of vertical walls, roof, slabs (*)	60,000.00		65%
	b) windows and shutters replacement (*)	60,000.00		50%
	c) installing solar shades (*)	60,000.00		50%
	d) actions on common parts, involving over 25% of the building surface area		40,000.00 (#)	70%
	e) same actions as in d) to achieve at least the average quality as per tables 3 and 4 of Annex 1, of the Italy's Ministerial Decree 26/06/2015 "Guidelines for the Energy Certification Decree"		40,000.00 (#)	75%
	f) actions as in d) and e) implemented in seismic zones 1,2 and 3, aimed to reduce seismic risks also, resulting in one lower class of the seismic risk classification		136,000.00 (#)	80%
	g) actions as in d) and e) implemented in seismic zones 1,2 and 3, aimed to reduce seismic risks also, resulting in two or more lower classes of the seismic risk classifications		136,000.00 (#)	85%

Source: ENEA

# BONUS CASA – The measure

Since 1987, tax deductions for the retrofit (not specifically addressed to the energy performance of involved dwelling/building) is allowed.

In the period 2014-2018, on average 45 billion euros of investments have been leveraged every year.

The Budget Law 2018, to allow the monitoring and evaluation of energy savings achieved thanks to the implemented actions, introduced the obligation of the communication to ENEA of the information about the work carried out, as for Ecobonus.

# Total investments and incentive schemes

Year	INVESTMENTS - TOTAL		INCENTIVIZED INVESTMENTS		
	Private investments in retrofit and energy renovation - TOTAL (M€)	Private investments in retrofit and energy renovation - Residential (M€)	Implemented actions in the residential sector (n)	Investments (M€)	Share of investments in the residential sector (€)
<b>2013</b>	64.150	45.801	1.653.588	27.957	61,0%
<b>2014</b>	66.109	47.242	1.668.497	28.457	60,2%
<b>2015</b>	67.402	47.925	1.525.054	25.147	52,5%
<b>2016</b>	69.734	49.879	1.742.903	28.243	56,6%
<b>2017</b>	71.062	50.444	1.741.647	28.106	55,7%
<b>2018</b>	72.639	51.356	1.757.340	28.587	55,7%



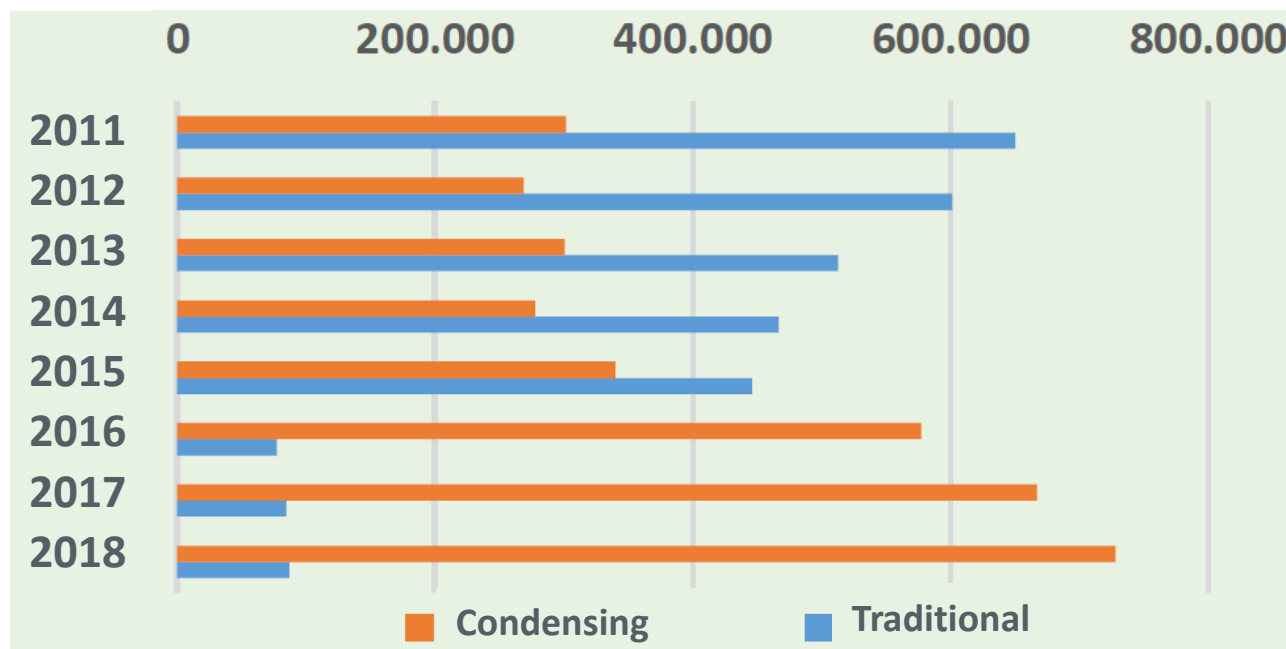
# The trends of the two schemes

Year	BONUS CASA			ECOBONUS		
	Actions (n)	Investments (M€)	Deduction (M€)	Actions (n)	Investments (M€)	Deduction (M€)
<b>2007</b>	402.811	7.938	2.858	106.000	1.453	799
<b>2008</b>	391.688	7.365	2.651	247.800	3.500	1.925
<b>2009</b>	447.728	8.070	2.905	236.700	2.563	1.410
<b>2010</b>	494.006	8.808	3.171	405.600	4.608	2.534
<b>2011</b>	779.400	13.408	5.184	280.700	3.309	1.820
<b>2012</b>	883.600	16.325	7.248	265.380	2.883	1.586
<b>2013</b>	1.317.627	24.345	12.172	335.961	3.612	2.203
<b>2014</b>	1.374.216	25.390	12.695	294.281	3.066	1.993
<b>2015</b>	1.193.926	22.059	11.030	331.128	3.088	2.007
<b>2016</b>	1.349.546	24.934	12.467	393.357	3.309	2.151
<b>2017</b>	1.319.656	24.382	12.191	421.991	3.724	2.420
<b>2018</b>	1.355.147	25.038	12.519	402.193	3.549	1.984

Source: CRESME

# Overlapping between the two schemes

## Number of boilers sold in Italy



Source: Assotermica

**In 2018, only 65,000 condensing boilers incentivized through the Ecobonus**

# Websites for data collection



## DETRAZIONI FISCALI

per interventi di RISPARMIO ENERGETICO e utilizzo di FONTI DI ENERGIA RINNOVABILI

**Ristrutturazioni edilizie**  
Art. 16 bis del DPR 917/86

**BONUS CASA**  
detrazioni del 50%

SITI APERTI PER IL CARICAMENTO O MODIFICA DELLE PRATICHE

2019 2018

CONSULTAZIONE PRATICHE ANNI PRECEDENTI:  
NESSUN SITO NEGLI ANNI PRECEDENTI.

COME INVIARE LE PRATICHE?  
ATTRAVERSO IL PORTALE RELATIVO ALL'ANNO DI FINE LAVORI

QUANDO INVIARE LE PRATICHE?  
ENTRO 90 GIORNI DALLA DATA DI FINE LAVORI

PER LA DATA DI FINE LAVORI VEDI FAQ 4.A DEL DOCUMENTO  
FAQ BONUS CASA

**Riqualificazione energetica**  
ex legge 296/2006

**ECOBONUS**  
detrazioni del 50% 65% 70% 75% 80% 85%

SITI APERTI PER IL CARICAMENTO O MODIFICA DELLE PRATICHE

2019 2018

CONSULTAZIONE PRATICHE ANNI PRECEDENTI:  
2017 - 2017 CONDOMINI - 2016 - 2015 - 2014 - 2013 - 2012 -  
2011 - 2010 - 2009 - 2008 - 2007 -

COME INVIARE LE PRATICHE?  
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FAQ ECOBONUS

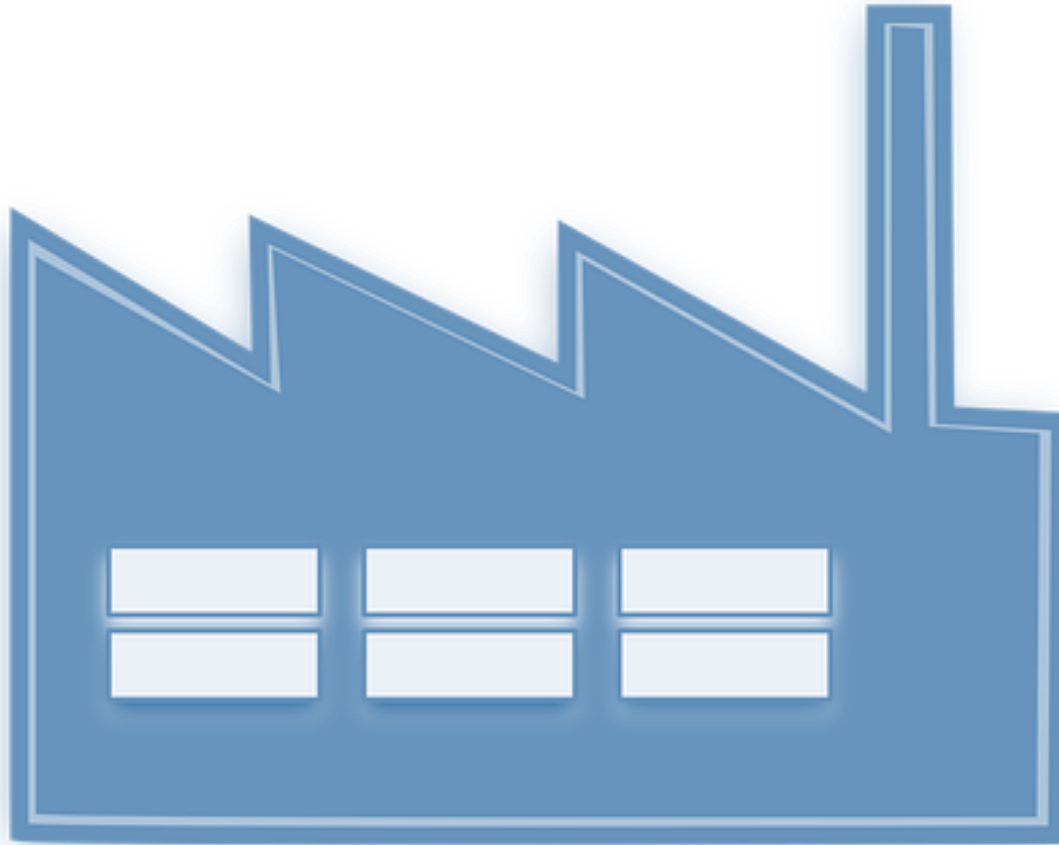
# Ecobonus: 2018 figures

Action	n.	%	M€	%	GWh/y	%	Years	€/kWh
Condominiums	477	0,14%	55,5	1,67%	18,3	1,58%	30	0,10 €
Whole building	2.674	0,80%	249	7,47%	72	6,20%	30	0,11 €
Envelope	25.267	7,55%	901	27,05%	326	28,18%	30	0,09 €
Windows and shutters	138.790	41,45%	1.072	32,18%	381	32,97%	30	0,10 €
Solar shades	70.491	21,05%	128	3,84%	14	1,22%	30	0,26 €
Solar panel	5.578	1,67%	36	1,09%	28	2,42%	15	0,09 €
Heating system	89.262	26,66%	873	26,20%	309	26,73%	15	0,20 €
Building automation	2.307	0,69%	17	0,50%	8	0,69%	10	0,19 €
<b>Total</b>	<b>334.846</b>	<b>100%</b>	<b>3.331</b>	<b>100%</b>	<b>1.155</b>	<b>100%</b>		

# Bonus Casa: 2018 figures

Actions	n.	m <sup>2</sup>	MW	Energy saving [MWh/year]
Windows and shutters	124.268	401.431		78.913
Walls	10.995	761.259		41.636
Roof	6.620	725.292		62.206
Condensing boiler	100.025		2.586	145.466
Biomass boilers	18.846		207	55.133
Heat pumps	96.412		470	184.254
Hybrid system	516		13	3.976
Building Automation	5.221	8.110(*)		5.231
Appliances	87.723			13.544

# Energy audit obligation in the industry sector



# EED energy audit obligation

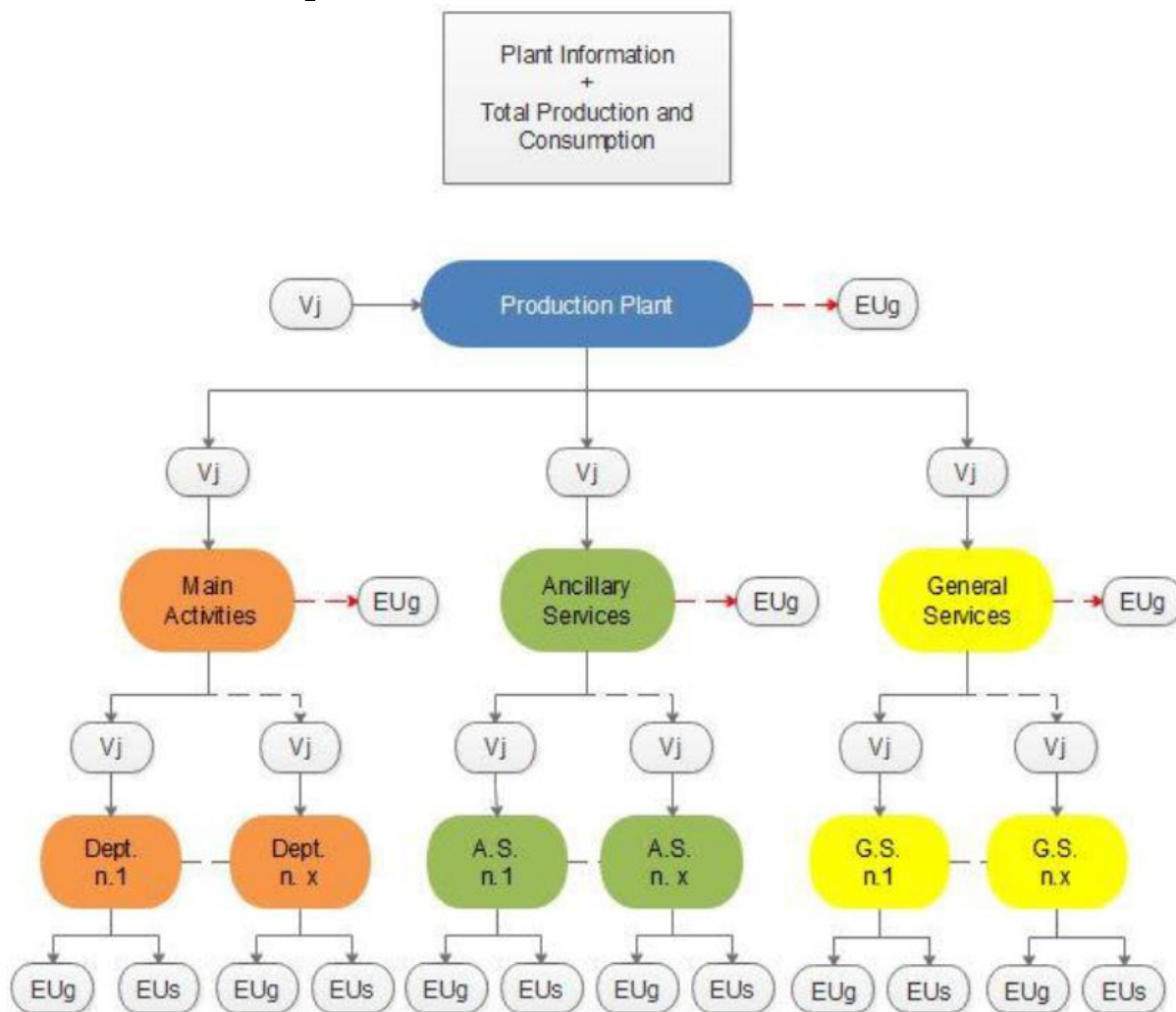
- Obligation extended to electricity intensive SME (>2,4 GWh/year of consumption; >1 GWh/year since 2018)
- More than 3.000 SMEs involved, whose electricity consumption is more than 2% of total final consumption of Italy in 2016
- Shared step-by-step process: common approach for all sectors and derivation of energy performance index
- For SMEs, combination of different incentives for both the energy audit and the relative energy efficiency actions singled out

# Energy audit within the Art. 8 of the EED

Together with the main stakeholders, ENEA developed an innovative scheme to analyze the energy structure of the audited production site. Through a multi-level procedure, a tree scheme allows to better define the energy performance, for each energy vector (electric, thermal, steam, hot water, etc.), splitting annual consumption by the different users within the production site.



# The adopted tree-scheme



Source: ENEA

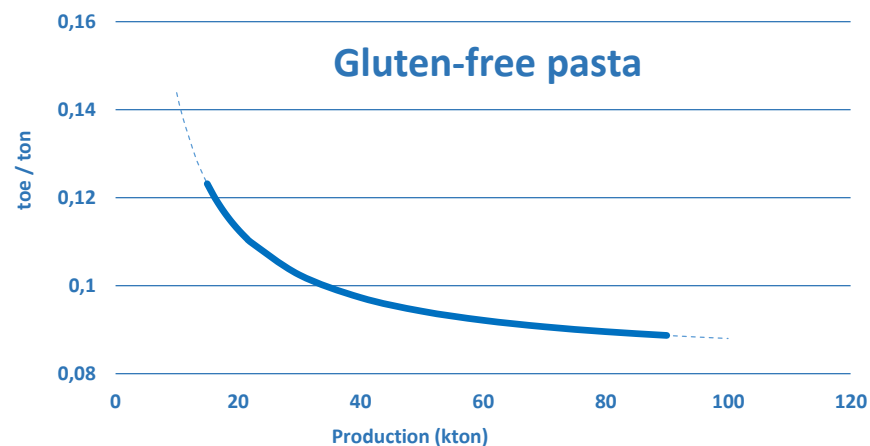
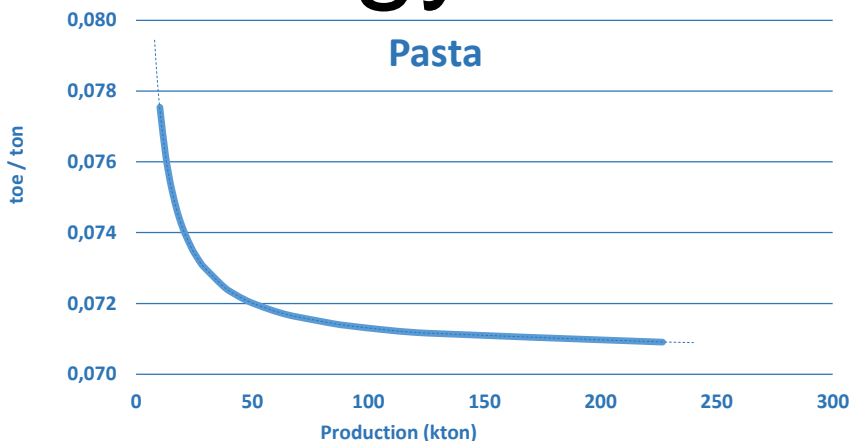
# Data collection

ENEA developed different documents to provide operational advices to auditors, to standardize reporting and accounting. Together with different trade associations, specific guidelines were conceived to make the enterprises fully comply with Legislative Decree 102/2014, in particular for multi-site enterprises.

LA.1	INTERNAL TRASFORMATIONS	CODE	ENERGY VECTOR	u.m.	Balance	Cogeneration	Trigeneration	Photovoltaics	Wind	Other	Total	toe	Vtot [toe]		
		1	Electricity	kWh	Production										Use for internal transformation
Internal consumption															
Exportation															
2	Natural gas	Sm3	Use										Production	0	
			Production												
3	Heat	kWh	Internal consumption											Exportation	0
			Exportation												
			Production												
4	Cold	kWh	Internal consumption											Internal consumption	0
			Exportation												
			Production												
....	Other		...										<b>Total consumptions</b> (Consumption at LA - Internal consumption- Production - Exportation)	0	

Source: ENEA

# Energy Performance Indexes



Payback Period (PP)	Actions	Energy Saving	Economic saving	Cumulative investments	Cumulative distribution of investments
(years)	(n)	(toe/year)	(€/year)	(€)	(%)
PP ≤ 1	31	2.153	1.377.667	967.771	15%
PP ≤ 2	72	7.414	4.804.171	6.638.898	34%
PP ≤ 3	144	12.235	9.495.087	19.392.559	54%
PP ≤ 5	177	19.370	16.503.089	44.960.815	84%
PP ≤ 10	206	21.036	17.535.726	57.652.769	98%
PP > 10	211	21.389	17.725.494	62.433.144	100%

Source: ENEA

# Energy saving potential

	Number of enterprises	Audited sites	Projects with payback time less than 3 years	Potential savings (ktoe)	Necessary investments (M€)
<b>ATECO sector</b>					
<b>A - Agriculture, forestry and fishing</b>	61	108	59	2.5	2.2
<b>B - Mining and quarrying</b>	40	75	31	5.7	3.5
<b>C - Manufacturing</b>	5,131	7,032	5,271	595.3	491.4
<b>D - Electricity, gas, steam and air conditioning supply</b>	232	492	194	38.1	32.2
<b>E - Water supply, sewerage, waste management and remediation activities</b>	324	921	276	24.3	18.7
<b>F - Construction</b>	175	323	97	10.1	6.9
<b>G - Wholesale and retail trade; repair of motor vehicles and motorcycles</b>	892	2,433	896	24.2	21.2
<b>H - Transportation and storage</b>	416	934	272	27.7	18.1
<b>I - Accommodation and food service activities</b>	110	309	112	2.6	3.1
<b>J - Information and communication</b>	160	664	255	19.6	20.6
<b>K - Financial and insurance activities</b>	244	597	151	2.4	2.3
<b>L - Real estate activities</b>	59	114	52	2.2	2.2
<b>M - Professional, scientific and technical activities</b>	255	316	66	1.4	1.0
<b>N - Administrative and support service activities</b>	250	449	62	1.0	0.8
<b>Other</b>	337	693	570	22.5	22
<b>Total</b>	<b>8,686</b>	<b>15,460</b>	<b>8,364</b>	<b>779.6</b>	<b>646</b>

# Training & Information Programme



# 3-year Information & Training Programme

Brainstorming for the definition of the activities of the Programme.

Analysis of barriers, key messages to be delivered and related tools and actions for:

- SMEs and large enterprises
- Credit sector
- Public bodies
- Households and blocks of flat



# Achieved energy savings (EED art.7)



# EED art. 7: achieved savings (final, Mtoe)

Policy measures notified	New savings achieved	New savings achieved	New savings achieved (estimated)	New savings achieved (estimated)	New savings achieved (estimated)	Cumulative savings	Cumulative savings expected by 2020
	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe	
	2014	2015	2016	2017	2018	2014-2018	Mtoe
Obligation scheme White Certificates	0.872	0.859	1.101	1.341	1.162	5.335	12.25
Alternative measure 1 Thermal energy account	0.003	0.008	0.019	0.045	0.081	0.156	0.46
Alternative measure 2 Tax relief	0.268	0.571	0.894	1.243	1.575	4.552	8.75
Alternative measure 3 National Energy Efficiency Fund	0.000	0.000	0.000	0.000	0.000	0.000	0.13
Alternative measure 4 Impresa 4.0 Plan	0.000	0.000	0.000	0.300	0.440	0.740	2.04
Alternative measure 5 Cohesion Policies	0.022	0.140	0.198	0.199	0.213	0.771	1.25
Alternative measure 6 Information campaigns	0.000	0.012	0.021	0.055	0.074	0.162	0.37
Alternative measure 7 Sustainable mobility	0.000	0.000	0.000	0.000	0.058	0.058	0.25
<b>Total savings</b>	<b>1.166</b>	<b>1.591</b>	<b>2.233</b>	<b>3.183</b>	<b>3.603</b>	<b>11.775</b>	<b>25.50</b>

\* Preliminary estimate on data not yet consolidated

Source: Elaboration of the Ministry of Economic Development based on data from ENEA and Gestore dei Servizi Energetici S.p.A





# THANK YOU!!!

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**2019 Ecobonus Annual Report:**

<http://www.enea.it/it/seguici/pubblicazioni/edizioni-enea/2019/report-detraioni-fiscali-65-per-cento>