

MINISTRY OF ECONOMIC DEVELOPMENT

Directorate-General for Energy Supply, Efficiency and Competitiveness

Annual report on energy efficiency
Results achieved and targets for 2020

April 2020

Table of Contents

MINISTRY OF ECONOMIC DEVELOPMENT.....	1
Directorate-General for Energy Supply, Efficiency and Competitiveness.....	1
Annual report on energy efficiency	1
1 Summary of the main indicators	3
2 National 2020 energy efficiency targets.....	3
3 Energy consumption and savings	4
3.1 Energy demand and use.....	4
3.2 Energy intensity.....	5
3.3 Energy savings achieved to comply with the provisions of Articles 5 and 7 of the Energy Efficiency Directive.	6
4 Energy efficiency promotion measures.....	8
4.1 The National Integrated Energy and Climate Plan - PNIEC.....	8
4.2 White certificates.....	8
Updates to legislation.....	8
Measures implemented and savings achieved	8
4.3 Tax relief.....	9
Updates to legislation.....	9
Measures implemented and savings achieved	9
4.4 'Conto Termico' (Thermal energy account)	10
Measures implemented and savings achieved	10
4.5 Energy efficiency national fund.....	10
Updates to legislation.....	10
Measures implemented and savings achieved.	11
4.6 Programme for upgrading the energy efficiency of central government buildings (PREPAC)	11
Updates to legislation.....	11
Measures implemented and savings achieved.	11
4.7 Sustainable mobility.....	11
Regulation No 176 of 13 September 2017 - Marebonus	11
Updates to legislation.....	11
Measures implemented and savings achieved.	12
Regulation No 125 of 14 July 2017 - Ferrobonus Updates to legislation.....	12
Measures implemented and savings achieved.	12
4.8 Three-year information and training programme (PIF)	13
Measures implemented and savings achieved.	13
4.9 Energy efficiency measures promoted by cohesion policies	14
4.10 Piano Impresa 4.0.....	15
Appendix A – Guiding template.....	16
Table B - Data based on national statistics (if different or not available in Eurostat).....	16
Additional requirements Article 24 (1), Annex XIV, Part 1 (a) Energy Efficiency Directive	16
Additional requirements Article 24 (1), Annex XIV, Part 1 (b) Energy Efficiency Directive	16

Additional requirements Article 24 (1), Annex XIV, Part 1 (c) Energy Efficiency Directive 17
Additional requirements Article 24 (1), Annex XIV, Part 1 (d) Energy Efficiency Directive 17
Additional requirements Article 24 (1), Annex XIV, Part 1 (e) Energy Efficiency Directive 17

This report was drawn up by ENEA and approved by the Ministry of Economic Development in accordance with Article 17(2) of Legislative Decree No 102 of 4 July 2014 transposing Directive 2012/27/EU on energy efficiency.

1 Summary of the main indicators

This report, drawn up in accordance with Article 24(1) of Directive 2012/27/EU, will, after briefly discussing the energy efficiency targets which Italy established for 2020, outlines the results achieved in the period 2014-2019 in line with the compulsory energy efficiency measures set out in Articles 5 and 7 of the Energy Efficiency Directive (EED). It also describes the main measures which have been taken to meet the energy efficiency targets. Lastly, it contains the annual report based on the template provided by the European Commission (Appendix A).

2 National 2020 energy efficiency targets

The national indicative energy efficiency targets for 2020 already discussed in previous annual reports and specified in Article 3(1) of Legislative Decree No 102/2014 transposing the EED, provide for an energy efficiency improvement programme designed to save 20 Mtoe of primary energy per year and 15.5 Mtoe of final energy per year. By 2020 primary energy consumption is expected to be 158 Mtoe and final energy 124 Mtoe.

Table 2.1 shows expected savings for final and primary energy by 2020, broken down by sector and by intervention measure.

Table 2.1 – Energy efficiency targets for 2020 (final and primary energy, Mtoe/year)

Sector	Planned measures for 2011-20					Expected savings by 2020	
	White certificates	Tax relief	Thermal energy	Legislative standards	Mobility investments	Final energy	Primary energy
Residential	0.15	1.38	0.54	1.60		3.67	5.14
Tertiary	0.10		0.93	0.20		1.23	1.72
Public administration	0.04		0.43	0.10		0.57	0.80
Private	0.06		0.50	0.10		0.66	0.92
Industry	5.10					5.10	7.14
Transport	0.10			3.43	1.97	5.50	6.05
Total	5.45	1.38	1.47	5.23	1.97	15.50	20.05

Source: National Energy Efficiency Action Plan, 2014

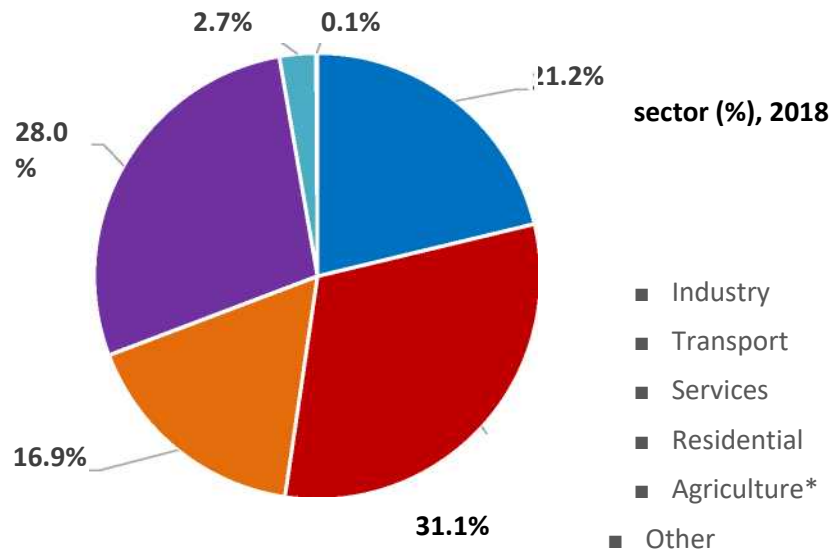
3 Energy consumption and savings

3.1 Energy demand and use

Gross inland energy consumption in 2018 was 157 Mtoe, down by 1.6% on the 2017 figure in line with the decreasing trend observed since 2011, except for last year. Final energy consumption was 114.4 Mtoe, slightly up (+0.7%) on 2017. As was the case last year, the increase is mainly due to the services (+6%) and transport (+3.1%) sectors, while consumption in the residential (-2.6%) and industrial (-2.5%) sectors fell significantly.

In terms of the shares of final energy use attributable to each sector, in 2018 the transport (35.6 Mtoe) and residential (32.1 Mtoe) sectors were the ones accounting for most consumption (31.1% and 28% of the total respectively). They were followed by industry with 24.3 Mtoe (21.1% of energy consumption). The services sector accounted for 16.9% (19.3Mtoe). With 3 Mtoe, agriculture accounted for 2.7% (Figure 3.1).

Figure 3.1 - Final energy consumption for each



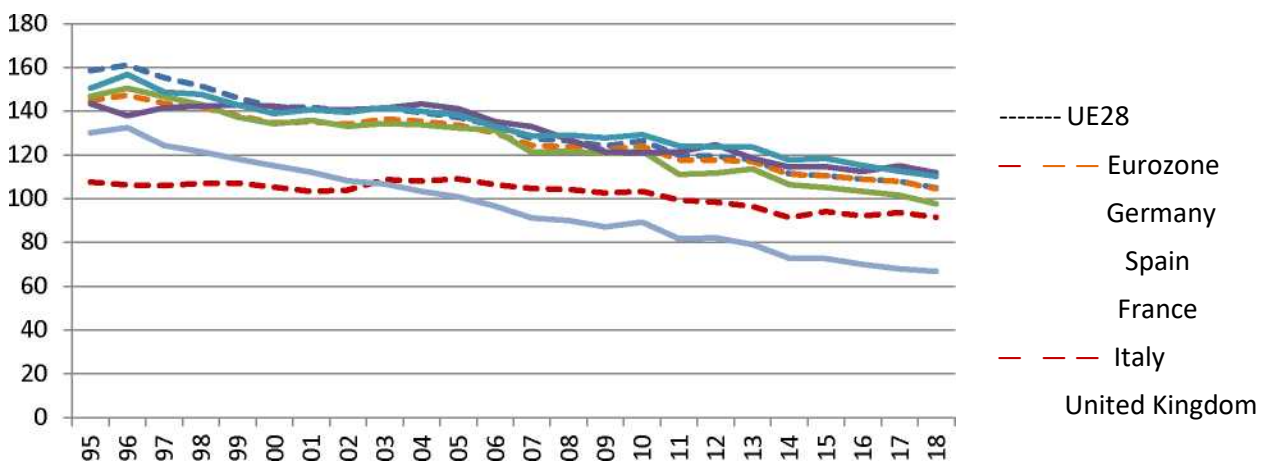
Source: Based on Eurostat data

Note: * Agriculture includes the final consumption sectors of 'agriculture and forestry' and 'fisheries'.

3.2 Energy intensity

In 2018, Italy's primary energy intensity¹ was 91.4 toe/M€₂₀₁₅, down by 2.4% compared to 2017 in line with the downward trend observed since 2006 after the peak recorded in 2005. It should be stressed that Italy continues to show values for primary energy intensity lower than both the average for EU countries (104.9 toe/M€₂₀₁₅) and those belonging to the eurozone (104.5 toe/M€₂₀₁₅) (Figure 3.2). Italy's values are also lower than those of the countries shown in Figure 3.2 with the exception of the United Kingdom, thus confirming Italy's excellent performance.

Figure 3.2 - Primary energy intensity in some EU28 countries, 1995-2018, toe/M€₂₀₁₅



Source: Based on Eurostat data

¹ Primary energy intensity is calculated as the ratio between 'gross inland consumption' and 'GDP at market prices, chain linked volumes (2015)' (source: EUROSTAT).

3.3 Energy savings achieved to comply with the provisions of Articles 5 and 7 of the Energy Efficiency Directive.

The table below shows the monitoring data for 2014-2019 in terms of compliance with Articles 5 and 7 of the Energy Efficiency Directive² (EED) as a result of the measures notified. In particular, as far as the application of Article 7 EED is concerned, the overall target set for the period 2014-2020 and the level of achievement of the EED are also reported.

The monitoring values for 2019 should be considered preliminary and might be subject to verification and consolidation for the following reasons: in the case of white certificates, they are usually calculated on the basis of primary energy savings, and a detailed analysis of the individual measures approved is required in order to obtain a definitive assessment of the final energy saving; in the case of tax relief for the energy upgrading of buildings and the Piano Impresa 4.0 [Business Plan 4.0], users have until October 2020 to amend the figures relating to the work done; owing to the COVID-19 epidemiological emergency, the deadline for reporting energy savings pursuant to Article 7(8) of Legislative Decree No 102/2014 has been extended to 22 May 2020. This means that the data can only be consolidated once the deadline for meeting the required tax obligations has expired.

With regard to the obligation to upgrade the energy efficiency of a proportion of the floor area of buildings occupied by central government (Article 5 of the EED), over the period 2014-2019, measures have been or are being implemented or are planned for some 250 buildings corresponding to a total useful floor area of just over 3 million m². This figure can be attributed for the most part - both in terms of measures taken and the floor area upgraded - to the programme for improving the energy performance of central government buildings ('PREPAC'), whilst the rest is the result of other specific incentive measures (Interregional Operational Programmes for Energy) and the measures taken by the Agenzia del Demanio (Italian State Property Agency) under the Central Maintenance System ('Single Maintenance') referred to in Decree-Law No 98/2011. Table 3.1 shows the total floor area to be upgraded and the floor area of the buildings concerned. Although the area of public administration buildings to be renovated under the PREPAC 2019 programme is only 2.46%, the average over the period 2014-2019, which is 3.33%, exceeds the 3% target laid down in the Directive.

Table 3.1. Upgrading of the energy efficiency of central government buildings – 2014-2019

		2014	2015	2016	2017	2018	2019
Total floor area of buildings with a total useful floor area of more than 250 m ² , owned and occupied by central government, not meeting the energy performance requirements laid down in Article 5(1) of the EED.	More than 500 m ²	16,121,449	15,576,014	15,043,312	14,484,275	14,025,873	13,443,678
	Up to 500 m ²	Not monitored as not mandatory	364,401	364,084	363,384	362,741	362,741
Total floor area of heated and/or cooled buildings, owned and occupied by central government, with a total useful floor area of over 250 m ² , which has been upgraded or is scheduled to be upgraded during the year	More than 500 m ²	545,435	532,702	559,037	458,402	582,195	339,001
	Up to 500 m ²	0	317	700	643	0	0
Percentage of floor area upgraded		3.38%	3.34%	3.63%	3.09%	4.05%	2.46%

² To obtain estimates of the results, the common calculating methods and principles laid down in Annex V to Directive 2018/2002 amending Directive 2012/27/EU on energy efficiency were applied.

As regards the minimum energy saving target of 25.5 Mtoe of cumulative end-use energy to be achieved between 2014 and 2020 under Article 7 of the Directive³, Table 3.2 below shows the savings achieved in 2014-2019 by means of the measures notified. The results achieved are just below (by only one percentage point) the projected savings trend for achieving the 2020 target, but the monitoring system for those energy efficiency measures launched by Italy but not yet taken into account is currently being finalised. These measures include the National Energy Efficiency Fund, grants to municipalities for the implementation of projects relating to investments in energy efficiency and sustainable spatial development (implementation of Article 30 of Decree-Law No 34 of 30 April 2019), the Bonus for the renovation of building facades (Article 1(219) to (224) of Law No 160 of 27 December 2019) and finally the savings resulting from the implementation of Directive 2010/31/EU.

Table 3.2 – Mandatory savings (Mtoe) in accordance with Article 7 EED – 2014-2019

Policy measures notified	New savings achieved	New savings achieved	New savings achieved	New savings achieved	New savings achieved	New savings achieved	Cumulative savings	Cumulative savings expected by 2020
	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe	Mtoe
	2014	2015	2016	2017	2018	2019 *	2014-2019	
Mandatory scheme White certificates	0.872	0.859	1.102	1.345	1.185	1.478	6.842	10.65
Alternative measure 1 'Conto Termico' (Thermal energy account)	0.004	0.009	0.016	0.044	0.101	0.190	0.364	0.64
Alternative measure 2 – Tax relief	0.328	0.693	1.084	1.510	1.871	2.258	7.745	10.41
Alternative measure 3 National Energy Efficiency Fund	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.09
Alternative measure 4 'Piano Impresa 4.0' [Business Plan 4.0]	0.000	0.000	0.000	0.300	0.440	0.510	1.250	1.83
Alternative measure 5 Cohesion policy	0.002	0.101	0.168	0.169	0.223	0.224	0.886	1.11
Alternative measure 6 - Information campaigns	0.000	0.015	0.026	0.084	0.088	0.093	0.306	0.40
Alternative measure 7 Sustainable mobility	0.000	0.000	0.000	0.000	0.090	0.137	0.227	0.42
Total savings	1.207	1.677	2.395	3.451	3.999	4.890	17.619	25.56

* Preliminary

Source: Produced by the Ministry of Economic Development using ENEA and GSE data

³ For the calculation of the energy efficiency target and the evaluation of the 'early actions' carried out after 2008, please refer to the report submitted to the Commission notifying the method used for implementing Article 7 in June 2014.

4 Energy efficiency promotion measures

4.1 The National Integrated Energy and Climate Plan -

PNIEC

In January 2020, the Government sent the European Commission the National Integrated Energy and Climate Plan (PNIEC), as provided for in Regulation (EU) 2018/1999, thus completing the roadmap launched in December 2018 during which the Plan was the subject of a fruitful consultation between the institutions involved, citizens and all stakeholders.

The Plan sets the national targets to be achieved by 2030 for energy efficiency, renewable energy sources and the reduction of CO₂ emissions, as well as the objectives in terms of the energy security, interconnections, the single energy market and competitiveness, development and sustainable mobility, outlining for each of them the measures that will be taken to ensure that they are achieved.

In particular, the Notification of Measures and Methods for the Application of Article 7, annexed to the Plan⁴, identifies and analyses the policy measures aimed at achieving the energy saving targets for the period 2021-2030.

Compared to the binding energy saving target of 51.44 Mtoe, the proposed mechanisms lead to a cumulative estimated saving of 57.44 Mtoe.

The integrated national energy and climate progress reports drawn up under the said Regulation will also include information on the achievement of the national target in accordance with Article 7 EED. In particular, the report to be submitted by 30 April 2022 in accordance with Article 27 of the Regulation will also contain results relating to the achievement of the 2020 targets under Article 7 EED.

4.2 White certificates

Updates to legislation

2017 Within the current legal framework of the white certificates mechanism, the Ministerial Decree of 11 January defined the arrangements for achieving the national quantitative energy savings targets to be pursued by electricity and gas distribution companies for the years 2017 to 2020, while further measures subsequently introduced have gradually enhanced the overall effectiveness of the instrument by establishing the criteria, conditions and mechanisms for implementing energy efficiency projects for the purposes of accessing incentives. More specifically, in the course of 2018 and 2019, the Ministerial Decree of 10 May 2018 and the Directorial Decree 2019 set out the list of measures eligible for support via the method of evaluation for standardised projects, an operational guide was published to promote the identification, definition and submission of projects under the white certificates mechanism, and the categories of eligible projects were extended and updated.

Measures implemented and savings achieved

The total volume of projects submitted in 2019 was down on the previous period, with 1,744 projects as against 2,211 in 2018. The number of Energy Efficiency Certificates (EECs) granted in 2019 was 2.9 million, a decrease of about 24% compared to 2018 (3.8 million EECs).

⁴ <https://www.mise.gov.it/images/stories/documenti/PNIEC-Relazione-articolo-7-EED-2019-01-14.pdf>.

2018 The volume of EECs granted in 2019 in respect of the new requests for savings certification for which no licences had been granted in the previous years was 76,217 toe. For further information on the results achieved, please consult the annual report published by the GSE⁵.

4.3 Tax relief

Updates to legislation

The 2020 Budget Law extended the tax relief for the energy efficiency of buildings (*Ecobonus*) and for restructuring (*Bonus Casa*) until 31 December 2020 with regard to expenditure incurred from 1 January to 31 December 2020. It also introduced the *Bonus Facciate*, a deduction from gross tax of 90% 'for documented expenditure incurred in 2020 covering operations, including those involving only cleaning or external painting, for the recovery or restoration of the external facade of existing buildings situated in Area A or B, as defined by Decree No 1444 of the Minister for Public Works of 2 April 1968'. The *Bonus Facciate* also covers works on the opaque vertical structures of exterior facades for which data is to be transmitted to ENEA⁶, as in the case for the other two incentive mechanisms.

Further information on the works eligible for support and the results obtained can be found on the ENEA information portal⁷.

Measures implemented and savings achieved

As of early April 2020, around 318,000 cases of tax relief for the energy upgrading of existing residential buildings had been notified to ENEA for 2019. Table 4.2 provides a breakdown of works carried out by type, in respect of a total of approximately €3.4 billion of investments made, following which total savings of approximately 0.106 Mtoe/year of final energy were achieved.

Table 4.2 – Tax deduction incentives for works to upgrade the energy efficiency of existing residential buildings (Ecobonus)

	No of cases	Expenditure (€)	Savings (Mtoe)
Section 344 – Total upgrade	2,429	218,431,495	0.0058
Section 345 – Measures on building envelope	175,047	2,033,192,854	0.0615
Section 346 – Solar panels for hot water	4,982	37,029,673	0.0022
Section 347 – Winter heating systems	132,537	985,407,071	0.0337
Section BA - Building Automation	2,236	23,698,026	0.0021
Communal parts of apartment buildings	588	85,453,724	0.0019
Total	317,819	3,383,212,844	0.1055

Source: ENEA

The number of works for which incentives were provided via the Ecobonus is lower than indicated by the data on sales on the domestic market because many works are incentivised by means of tax relief for building renovation (*Bonus Casa*), with some more being covered via white certificates and the Thermal Energy Account: the market share incentivised via building renovation is assumed to be 60%⁸.

⁵ <https://www.efficientzaenergetica.enea.it/detrazioni-fiscali.html>.

⁶ Works on the opaque vertical structures of the exterior facades for which data are to be transmitted to ENEA are those that have an impact from an energy point of view or affecting the plaster of more than 10% of the gross dispersant surface area of existing buildings located in areas A or B, within the meaning of Ministerial Decree No 1444 of 2 April 1968, which comply with the minimum requirements of Ministerial Decree of 26 June 2015 and have thermal transmittance values U(W/m²K) not exceeding the minimum corresponding values set out in Table 2 of the Ministerial Decree of 11 March 2008, as amended by the Ministerial Decree of 26 January 2010, and Appendix B of the Ministerial Decree of 26 June 2015 ('Minimum requirements').

⁷ <https://www.gse.it/dati-e-scenari/rapporti>.

⁸ Source: <http://documenti.camera.it/leg18/dossier/pdf/Am0036.pdf>.

The increased availability of data has allowed there to be a review of the energy savings estimates⁹ achieved for the entire period 2014-2019: the overall reduction in consumption over the whole period was around 1.66 Mtoe/year up to 2019, of which more than 0.28 Mtoe/year resulted from new measures implemented in 2019.

Therefore, the energy savings achieved in 2019 by means of new incentives involving the two types of tax relief described come to approximately 0.39 Mtoe/year.

4.4 ‘Conto Termico’ (Thermal energy account)

Measures implemented and savings achieved

In 2019, the Conto Termico mechanism continued the growth seen since 2017 in terms of energy efficiency measures promoted. In 2019, €285.1 million of direct access incentives were granted, or around 50% more than the previous year.

The number of works relating to energy efficiency and renewables in question was 113,658. This is higher than the number of contract requests activated (111,534) owing to the existence of so-called ‘multi-measure’ requests involving several measures being implemented at the same time.

In terms of the types of measures receiving support, there continues to be more focus on those involving the installation of renewable thermal systems with high energy and environmental performance (biomass, solar and heat pumps) which can be accessed by the private sector and public administrations, while for the remainder, which is more specifically targeted at energy efficiency measures on public administration buildings, priority is given to building envelope insulation, window replacement and condensation boilers.

The estimate of the final consumption savings¹⁰ generated by the new measures supported by the Conto Termico in 2019 is 89 ktoe. Taking into account the annual savings achieved by the measures incentivised in previous years by retracing the entire time series of measures, the total amount of savings up to and including 2019 is 0.19 Mtoe, with a growing trend of new annual savings.

For further information on the results achieved, please consult the annual report published by the GSE¹¹.

4.5 Energy efficiency national fund

Updates to legislation.

The Interministerial Decree¹² of 5 April 2019 approved the operational procedures for the submission of aid applications to the National Energy Efficiency Fund. In particular, it defined the templates and identified the procedures and additional economic and financial parameters and minimum requirements for access to aid.

⁹ For condensing boilers, biomass boilers, walls and ceilings, and doors and windows, these figures relate to the unitary energy saving observed with the Ecobonus mechanism, for heat pumps the unitary energy saving observed for the Conto Termico [thermal energy account], and for traditional boilers the unitary energy saving resulting from the application of the reference parameters for Italy under the TABULA project (http://episcopo.eu/fileadmin/tabula/public/docs/brochure/IT_TABULA_TypologyBrochure_POLITO.pdf).

¹⁰ Savings resulting from the Conto Termico are calculated annually by implementing specific calculation algorithms for the different types of measure, using the technical parameters established for each incentivised measure when incentives were granted.

¹¹ <https://www.gse.it/dati-e-scenari/rapporti>.

¹² <https://www.mise.gov.it/index.php/it/energia/efficienza-energetica/fondo-nazionale-efficienza-energetica>.

Measures implemented and savings achieved.

The Fund provides incentives to public authorities and businesses, granting soft loans and guaranteeing financing operations for measures that help meet the national energy efficiency targets. The first 10 projects to be financed by the Fund were approved in February 2020¹³. The approved projects involve investments of more than €14 million, with the Fund putting up €7.4 million of this amount. These projects relate to upgrading the energy efficiency of buildings, extending district heating networks and making public lighting networks more efficient. In April 2020, a further 7 projects were approved, for which €3.8 million was granted for planned investments amounting to approximately €5.4 million.

4.6 Programme for upgrading the energy efficiency of central government buildings (PREPAC)

Updates to legislation.

The Decree¹⁴ of 29 July 2019 approved the programme of measures to improve the energy performance of central government buildings for 2018, funding 56 operations totalling approximately €97 million.

Measures implemented and savings achieved.

Table 4.3 provides a summary of the PREPAC programmes for the period 2014-2019. For 2019, the project ranking lists are being approved.

Table 4.3 - Projects submitted and funded under PREPAC (2014-2019)

YEAR	Projects submitted (n)	Eligible projects (n)	Resources requested by eligible projects (€)
2014	30	22	10,769,620
2015	122	47	62,228,613
2016	89	32	60,207,917
2017	83	39	38,952,030
2018	100	56	96,895,700
2019	58	35	46,705,815

Source: Based on ENEA data

4.7 Sustainable mobility

Regulation No 176 of 13 September 2017 - Marebonus

Updates to legislation.

The Marebonus, an incentive intended to promote the combined road-sea transport of goods by creating new and improving existing maritime transport services, has been allocated resources totalling €118 million for 2017 and 2018. In a Communication of 9 January 2020 the Ministry of Infrastructure and Transport indicated that the resources available for the first year - 13 December 2017 to 12 December 2018 - amounted to €41,650,972.23 and that the aid granted to shipping companies per embarked transport unit was €0.0503.

¹³<https://www.mise.gov.it/index.php/it/198-notizie-stampa/2040787-fondo-nazionale-per-l-efficienza-energetica-approvati-i-primi-progetti-presentati-da-comuni-e-imprese>.

¹⁴ https://www.mise.gov.it/images/stories/normativa/Schema-DD-graduatorie-prepac-2018_29_07_2019.pdf.

The 2020 Budget Law provided further funding of €20 million for 2021 for incentives ‘to create new maritime transport services for the combined transport of goods or improving existing ones’.

Measures implemented and savings achieved.

Since the data relating to the 2018 has been made available, the energy savings resulting from the modal shift of goods from road has been updated, having been assessed last year on the basis of provisional data. More precisely, primary energy savings in 2018 were estimated on the basis of the data for embarked road units (lorries, articulated vehicles, vehicle transporter equivalent) for which the incentive was requested, totalling 545,011 units¹⁵.

The estimated final energy savings for 2018, applying the calculation methodology described in the method notification, was approximately 47 ktoe.

Since Marebonus beneficiaries are obliged to maintain their commitments for projects under the incentive scheme for 36 months after the end of the incentive period, the primary energy savings for 2019 have been estimated by adding the savings achieved in 2019 to the residual savings achieved in 2018. As data on the vessels transferred from the road to the sea is still not available, it has cautiously been assumed that there has been a 2.5% increase in maritime traffic in 2019, giving rise to total final energy savings of just over 70 ktoe.

Regulation No 125 of 14 July 2017 - Ferrobonus

Updates to legislation

The 2020 Budget Law extended the ‘Ferrobonus’ scheme with an allocation of €14 million for 2020 and €25 million for 2021. The Decree of the Ministry of Transport of 16 March 2020 subsequently provided operational instructions on how to access these funds while retaining those established in the first incentive period, but stressing that the companies already receiving them could apply for State funds in respect of the increase in the volume of rail traffic achieved compared to the volume in the last period for which the aid was requested.

Measures implemented and savings achieved.

Under Ferrobonus, an intermodal rail support measure, incentives were granted for the first year, 2018, amounting to approximately €17.77 million, with final energy savings estimated at just over 43 ktoe¹⁶.

Since there is still no reporting data from the second year of the Ferrobonus, a transfer of freight traffic from road to rail of 3.5% was assumed for 2019, resulting in final energy savings in 2019 of 23 ktoe. Since Ferrobonus beneficiaries are obliged to maintain the same traffic volumes as were subject to aid for the 24 months after the end of the incentive period, the total final energy saved in 2019 was just over 66 ktoe.

¹⁵ For maritime transport data for 2017, reference was made to the data published by the Italian Ports Association (Assoporti). An assessment was then made of the primary energy savings resulting from the modal shift of cargo to ships (+10.18% compared to 2017), estimated at 55,463 road units. Moreover, an average distance of 600 km per road vehicle was assumed, estimated as the average of the kilometres avoided as a result of the projects targeted by the incentive.

¹⁶ Energy savings resulting from the modal shift from road to rail were assessed on the basis of data provided by the Ministry of Infrastructure and Transport concerning traffic volumes (expressed in train-kilometres) reported by beneficiaries for the first year. The increase in rail traffic compared to the previous year, in which the Ferrobonus was not in place, was estimated on the basis of the data published for 2017 in the 2017-2018 National Accounts.

4.8 Three-year information and training programme (PIF)

Measures implemented and savings achieved.

Italia in Classe A is a National Energy Efficiency Information and Training Campaign¹⁷, scheduled to last three years, promoted by the Ministry of Economic Development and implemented by ENEA in the context of the PIF. In 2019, the campaign continued the work of previous years, repeating and consolidating the message disseminated during the first year of the PIF on the basis of an information campaign aimed at the general public. In particular, the third year of the programme was dedicated to strengthening networks, whereby initiatives were focussed on specific targets: the under-24s, the over-65s and the vulnerable. The objective was to explain in concrete terms all the advantages offered by energy upgrading, starting with the tax advantages granted to property owners by recent regulatory measures with a view to making it easier for them to implement energy efficiency measures in buildings, significantly reducing their consumption and emissions into the environment. Key activities include:

- *Italia in Classe A - La Serie*. The first infotainment show on energy efficiency. Ten episodes telling the best energy efficiency stories.
- *#DONNEDICLASSEA*. A storytelling spot explaining the irreplaceable value of energy and the role of women in our society.
- *Il muro dell'energia [the Energy Wall]*. A work of street-art explaining energy efficiency.

Key activities repeated annually include:

- *Novembre Mese dell'Efficienza Energetica [November Energy Efficiency Month]*. Institutions, businesses, associations and schools are invited to organise events, including themed events, promotional activities and information seminars, throughout the month of November to promote a more conscious use of energy in workplaces, homes and schools.
- *Portati il risparmio a casa [Take savings home]* Information material distributed free-of-charge to support information campaigns in the workplace and schools.
- Energy Efficiency Summer School. A training course for young graduates.
- Face-to-face and e-learning courses and seminars.

As a result of this outreach action, some of the people concerned implemented energy-saving measures at home. The estimate of the share of the participants was obtained from an opinion poll conducted in 2019, which assessed the effects of the information campaigns: in particular, a representative sample of the Italian adult population was achieved (3,036 respondents).

On the basis of the results of the study, a saving of about 37 ktoe/year can be estimated for the period 2017-2019, of which: approximately 20 ktoe/year resulted from the TV campaign, 13 ktoe/year from the Roadshow and Energy Efficiency Month, and just over 4 ktoe/year from the digital marketing campaign.

For companies, a thorough and detailed awareness raising campaign has been implemented under the PIF intended, *inter alia*, to ensure that companies meet their obligation to perform an energy audit by 5 December 2019, as required by Article 8 of Legislative Decree No 102/2014:

- Permanent panels with the main trade associations.
- Definition of standardised reporting templates both for operators and for the processing of data from the diagnosis.
- Methodology for the sampling of multi-site companies.
- Preparation of sectoral guidelines.

¹⁷ <http://italiainclassea.enea.it/>.

These activities have also contributed to the implementation of energy efficiency measures without any form of incentive and/or the adoption of an energy management system in accordance with ISO 50001, the savings of which are reported annually by companies to ENEA in accordance with Article 7(8) of Legislative Decree 102/2014. In this context, from 2015 onwards companies reported that they had implemented measures that generated approximately 4 Mtoe/year of energy savings, of which 0.31 Mtoe in 2019 (preliminary figure): the share of savings attributable to the specific activities targeted at businesses under the PIF was just over 56 ktoe/year in the period 2015-2019, of which about 4.5 ktoe/year for 2019.

4.9 Energy efficiency measures promoted by cohesion policies

For the 2007-2013 programming cycle, only projects launched from 2014 onwards, broken down by sector (Table 4.4), were considered.

Table 4.4 — Structural Funds — 2007-2013 programming cycle — Energy efficiency projects concluded

Intervention sector	Number of	Financing Total public (€)	Commitments (€)	Total Payments (€)
<i>Public/Tertiary-sector buildings</i>	736	309,085,995	312,115,657	309,177,894
<i>Residential buildings/social housing</i>	2	0	1,218,288	1,231,013
<i>Public lighting</i>	246	52,977,946	54,276,125	52,947,451
<i>Industry</i>	629	45,270,954	45,270,954	45,247,103
<i>Smart Grid</i>	38	98,429,846	132,274,194	111,338,293
<i>Information campaign</i>	22	109,039	109,039	109,039
<i>Urban Transport</i>	9	17,084,902	17,735,498	17,565,318
<i>Railways</i>	3	119,070,004	119,070,004	119,070,004
TOTALS	1,685	642,028,686	682,069,760	656,686,115

Source: Produced by ENEA using data of the Prime Minister's Office (www.opencoesione.gov.it/) and IOP Programme (www.poienergia.gov.it)

On the basis of the amount of financial resources activated, energy savings of about 218 ktoe/year can be attributed to these projects in 2019.

For the 2014-2020 programming cycle, 336 projects relating to energy efficiency had been concluded as of 2019 (Table 4.5).

Table 4.5 — Structural Funds — 2014-2020 programming cycle — Energy efficiency projects concluded

Intervention sector	Number of	Financing Total public (€)	Undertakings (€)	Total Payments (€)
<i>Buildings and lighting</i>	308	93,891,647	83,858,576	78,312,991
<i>Local public transport</i>	6	45,666,684	45,666,684	45,619,072
<i>Railways</i>	3	107,292,740	107,292,740	107,282,983
<i>Smart Grid</i>	19	853,716	835,048	833,348
Total	336	247,704,786	237,653,048	232,048,394

Source: Produced by ENEA using data of the Prime Minister's Office (www.opencoesione.gov.it/) and IOP Programme (www.poienergia.gov.it)

On the basis of the amount of financial resources activated or the performance indicators associated with each project, energy savings of about 6.5 ktoe/year can be attributed to these projects in 2019.

4.10 Piano Impresa 4.0

The 'Piano Nazionale Impresa 4.0' [National Business Plan 4.0] was launched by the Government at the beginning of 2017, with a budget of over €18 billion for the 2017-2020 three-year period. In September 2017, Phase 2 of the Plan, which acquired the title 'Piano Nazionale Impresa 4.0', was launched covering not only the manufacturing sector but also the other sectors of the economy. The aim was to enable SMEs to equip themselves with tools capable of supporting their digital transformation.

The last Budget Law (Law 160/2019) redefined the tax incentives provided for under the 'Piano Impresa 4.0' by transforming the 'super-depreciation' and 'hyper-depreciation' schemes into a tax credit for expenditure incurred on investment in new capital assets. Eligible investments include assets transferrable free-of-charge by companies operating under a public concession and a regulated tariff in the energy, water, transport, infrastructure, postal, telecommunications, waste water collection and purification, and waste collection and disposal sectors.

The 2020 Budget Law also replaced the current tax credit for R&D with a tax credit for investment in R&D, ecological transition, technological innovation 4.0 and other innovative activities supporting the competitiveness of businesses.

The tax credit is granted at the rate of 6% (10% in the case of technological innovation in pursuit of an ecological transition or digital innovation 4.0¹⁸ objective), but with a ceiling of €1.5 million, for expenditure on technological innovation activities aimed at the production of new or substantially improved products or production processes, defined as goods/services/processes which are different in terms of their technological characteristics, performance, eco-compatibility or ergonomics.

The 2020 Budget Law also earmarked further funding for the 'New Sabatini' scheme, allocating it €105 million for 2020 and €435 million from 2021 to 2025, and provided for an increase in State grants and a reserve of 25% of resources for investments in machinery, plant and equipment with a low environmental impact.

The monitoring data for 2019 are provisional as the relief can be claimed through income tax returns, which, as indicated above, can be amended up to October 2020.

¹⁸ Measures will be specifically identified by means of an implementing decree of the Ministry of Economic Development.

Appendix A – Guiding template

Table B - Data based on national statistics (if different or not available in Eurostat)

B21	3,825	(xii) passenger kilometres	pkm	Ministry of Infrastructure and Transport - National Transport Account http://www.mit.gov.it/sites/default/files/media/pubblicazioni/2019-07/CNIT_2017_2018_Bassa.pdf	domestic maritime passenger kilometres	July 2019
	20,980				total national aviation passenger kilometres	
B22	64,925	(xiii) tonnes	tkm	Ministry of Infrastructure and Transport - National Transport Account http://www.mit.gov.it/sites/default/files/media/pubblicazioni/2019-07/CNIT_2017_2018_Bassa.pdf	domestic maritime tonnes kilometres	July 2019
	1,269	kilometres			total national aviation tonnes kilometres	

Additional requirements Article 24 (1), Annex XIV, Part 1 (a) Energy Efficiency Directive

Main reason 1		Main reason 2		Main reason 3 Please, explain 'other' reasons and provide any additional comments, supporting data or links to documents	
35	Transport	Increase of transport of goods	Increase of transport of passengers	Please select	EUROSTAT - Passengers transported (rai l_pa_total) ISTAT – National Transport Account
37	Services	Increase of employment	Increase of value added	Please select	EUROSTAT - Gross value added and income by A*10 industry breakdowns EUROSTAT - Employment by A*10 industry breakdowns

Additional requirements Article 24 (1), Annex XIV, Part 1 (b) Energy Efficiency Directive

39-1	Major legislative in the previous year	Funds, financial measures & fiscal incentives	Alternative measure Art. 7 EED	Continuation of existing measures/no significant updates	Law 27th December 2019, n. 160 (2020 Budget Law) - extension of Ecobonus and Bonus Casa https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2019-12-27;160
39-2		Funds, financial measures & fiscal incentives	Alternative measure Art. 7 EED	Adoption of a new measure, conclusion of agreement, publication of legislation, commencement/enforcement of a measure/programme	Law 27th December 2019, n. 160 (2020 Budget Law) - Bonus Facciate https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2019-12-27;160
39-3		Funds, financial measures & fiscal incentives	National Energy Efficiency Fund Art. 19 EED	Continuation of existing measures/no significant updates	Decree 5th April 2019 about procedures and formats for the presentation of energy efficiency projects in the Fund https://www.mise.gov.it/index.php/it/normativa/decreti-interministeriali/2039729-decreto-interministeriale-5-aprile-2019-fondo-nazionale-per-l-efficienza-energetica-modalita-operative-per-la-presentazione-delle-domande-di-agevolazione
39-4		Funds, financial measures & fiscal incentives	Public sector renovations Art. 5 EED	Continuation of existing measures/no significant updates	Decree 29 July 2019 - Approval of the programme of energy efficiency projects within the PREPAC programme https://www.mise.gov.it/images/stories/normativa/Schema-DD-graduatorie-prepac-2018_29_07_2019.pdf
40-1	Major non-legislative in the previous year	Plans & strategies	Energy Efficiency Obligation Scheme Art. 7 EED	Amendments, implementation or design changes and extension of an on-going measure	Notification of the methodology for the Application of Article 7 of Directive 2012/27/EU on energy efficiency obligation schemes - Targets at 2030 https://www.mise.gov.it/images/stories/documenti/PNIEC-Relazione-articolo-7-EED_2019_01_14.pdf

Additional requirements Article 24 (1), Annex XIV, Part 1 (c) Energy Efficiency Directive

41-1	Total building floor area [m2] of the buildings with a total useful floor area over 250 m2 owned and occupied by the Member States' central government on 1 January 2020	16,824,851
41-2	Total building floor area [m2] of the buildings which did not meet the energy performance requirements referred to in Article 5(1) on 1 January 2020	13,467,418

Additional requirements Article 24 (1), Annex XIV, Part 1 (d) Energy Efficiency Directive

	Default approach Article 5(1)	
42-1	Total building floor area [m2] of buildings renovated in 2019 as referred to in Article 5(1)	339,001

Additional requirements Article 24 (1), Annex XIV, Part 1 (e) Energy Efficiency Directive

	Energy savings achieved in 2018 (savings achieved from measures and notified under Article 7(2)(c) and (d) shall not be part of this table)	Policy measure (Please, specify the policy measure)	Savings achieved in 2019 [ktoe] expressed in final energy*		
			Total annual end-use savings achieved [ktoe] in 2019 (amount of savings from new actions implemented from 2014 to 2019 that delivered savings in 2019)	thereof savings achieved [ktoe] in 2019 only from new actions that were implemented in 2019	Total cumulative end-use savings achieved [ktoe] from 2014 to 2019
44-1	EEOS	White certificates	1,478	218	6,842
44-2	Alternative measure 1	'Conto Termico' (Thermal energy account)	190	89	364
44-3	Alternative measure 2	Tax relief	2,258	387	7,745
44-4	Alternative measure 3	National Energy Efficiency Fund	0	0	0
44-5	Alternative measure 4	'Piano Impresa 4.0' [Business Plan 4.0]	510	70	1,250
44-6	Alternative measure 5	Cohesion policies	224	1	886
44-7	Alternative measure 6	Information programmes	93	41	306
44-8	Alternative measure 7	Sustainable mobility	137	0	227
44-12	Total savings		4,890	806	17,620