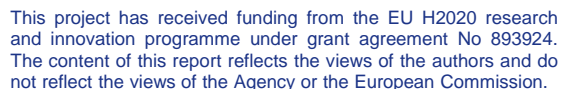


*Claudia Toro, Enrico Biele, Carlos Herce, Chiara Martini, Marcello Salvio,
Adrianna Threpsiadi, Jack Wilkinson-Dix*



28 September 2022, EDF Lab Paris-Saclay



9 National Energy Agencies

supported by:

9 Ministries of 8 different EU Countries

2 International associations of Energy Agencies

4 Further National Agencies

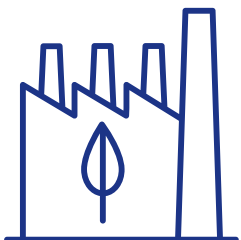
18 National SMEs associations, Chambers of Commerce, Regional Authorities



Main goals

- ✓ **Mapping and understanding** the complex context of national and local support to SMEs
- ✓ **Proposing effective and realistic solutions** to policy makers and policy implementers in terms of policy schemes, cross-cutting policy solutions embracing both energy and non-energy benefits, policy recommendations
- ✓ **Knowledge sharing** (successes, barriers and failures) on national policies

www.leap4sme.eu



Introduction

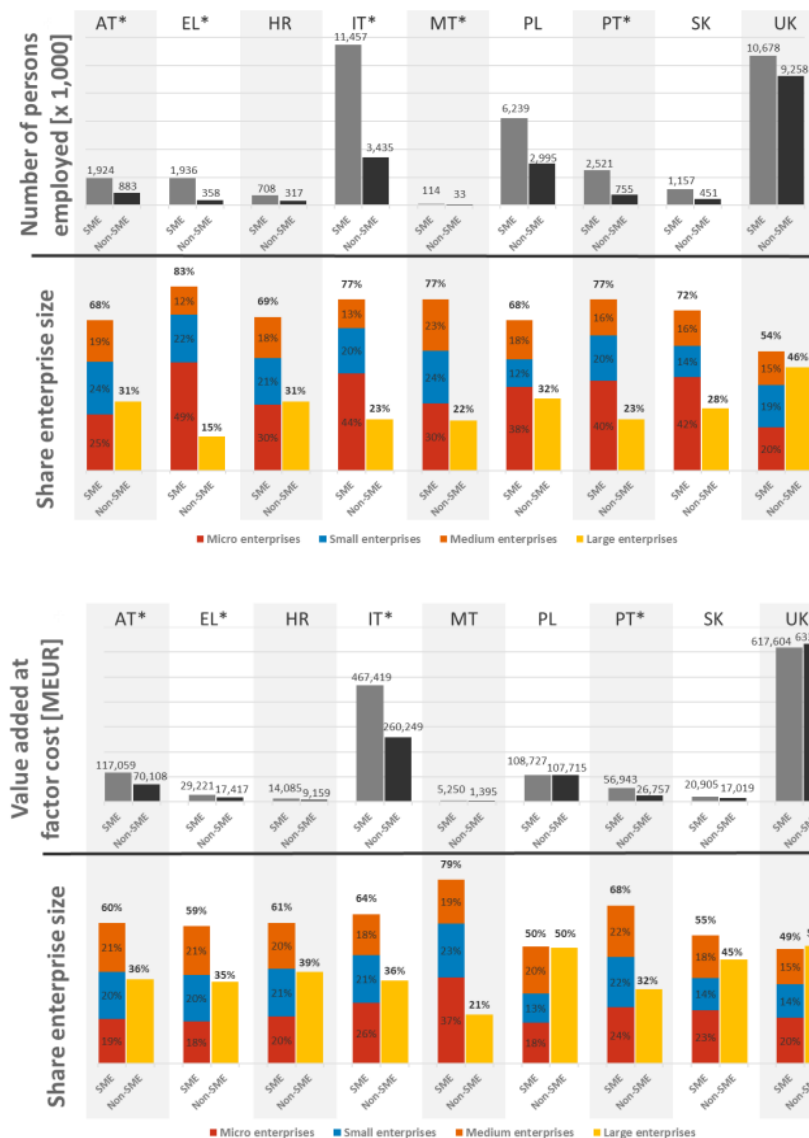
Small and medium-sized enterprises (SMEs) are the backbone of the European economy

Italy (2019)

3,708,610 SMEs

- ✓ More than 99% of all enterprises are SMEs (95% Micro enterprises)
- ✓ SMEs generate 70% of overall value added in the Italian 'non-financial business economy', exceeding the EU average of 56.4%
- ✓ The share of employment generated by SMEs is even larger, at 78.1%, compared to the EU average of 66.6%.

Source: D2.1 Mapping SMEs in Europe: Data collection, analysis and methodologies for estimating energy consumptions at Country levels, AEA [Deliverables | LEAP4SME](#)

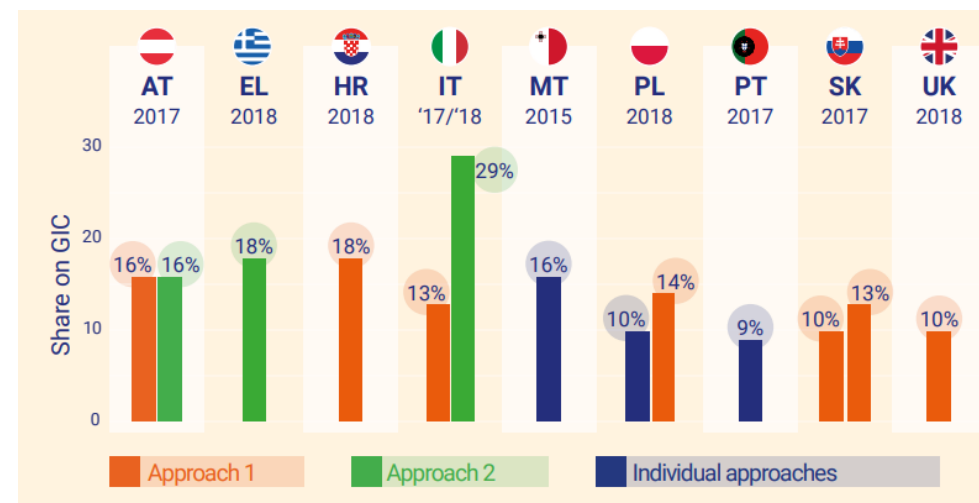


SMEs: energy consumption and energy efficiency

The research revealed that no energy-related data for SMEs were published at European level.

- ✓ At a national level, the quality of existing energy-related data for SMEs was generally insufficient to provide a sound scientific-based support to the policy making cycle.

Sources analysed: IEA, Eurostat, EIB, OECD, EC studies and initiatives, national energy plans, interviews with experts in the partner National Agencies, 63 EU funded projects on energy efficiency/SMEs/enterprises, peer reviewed publications and main conferences on energy efficiency in Europe.



Hypothesis, methodologies and assumptions explained in the LEAP4SME report "Mapping SMEs in Europe: Data collection, analysis and methodologies for estimating energy consumptions at Country level"

Italy Energy Efficiency Targets

Achieved energy savings by sector, period 2011-2020 and expected for 2020 (final energy, Mtoe/year) according to the 2017 NEEAP



Measure Sector	White Certificates	Tax deductions *	Conto Termico	Impresa 4.0	Structural funds	Information and training Plan	Marebonus e Ferrobonus	D.Lgs. 192/05 e D.Lgs. 26/6/15	Smart Working	Community Regulations and High Speed	Energy savings achieved in 2020	Energy savings expected by 2020	Achieved target (%)
Residential	0.76	3.49	0.2	-	-	0.04		1.84			6,33	3,67	172,5%
Services	0.16	0.03	0.07	-	0.03	0.01		0.09	0.43		0,82	1,23	66,6%
Industry	2.24	0.05	-	0.58	02	0.05		0.17			3,29	5,1	64,5%
Transport	0.01	-	-	-	-	-	0.16			2.12	2,29	5,5	41,6%
Total	3.17	3.57	0.27	0.58	0.23	1	0.16	2.1	0.43	2.12	12,73	15,5	82,1%

Source: ENEA elaboration of data from the Ministry of Economic Development, Ministry of infrastructures and transport, ISTAT, Gestore dei Servizi Energetici S.p.A., ENEA, FIAIP

National Energy and Climate Plan 2021-2030
estimated annual savings forming the
subject of the 2030 target by sector

Energy Efficiency Policies and Innovation Programmes for SMEs in Italy

Promotion of EE

- ✓ White Certificates
- ✓ RE for cooling and heating scheme
- ✓ National Energy Efficiency Fund
- ✓ Italy in Class A
- ✓ Energy – Intensive Industry Programme

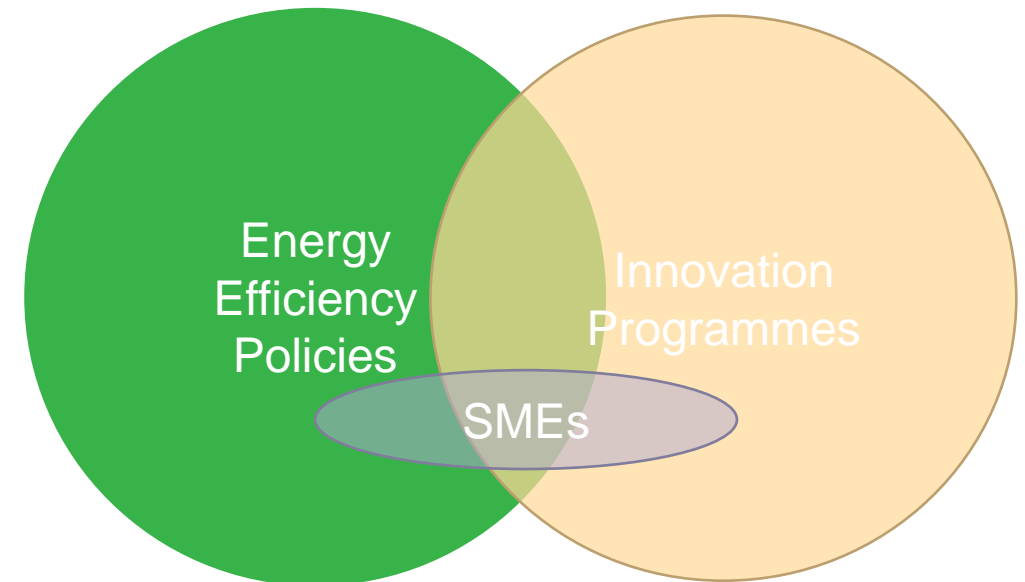
Innovation

- ✓ National Plan for Industry 4.0
- ✓ New National Transition Plan 4.0
- ✓ National Innovation Plan 4.0
- ✓ R&D projects of circular economy

Promotion of EE in SMEs

- ✓ Regional actions for Eas in SMEs

Other programmes devoted to innovation in SMEs



National Energy Efficiency schemes and programmes targeted also to SMEs

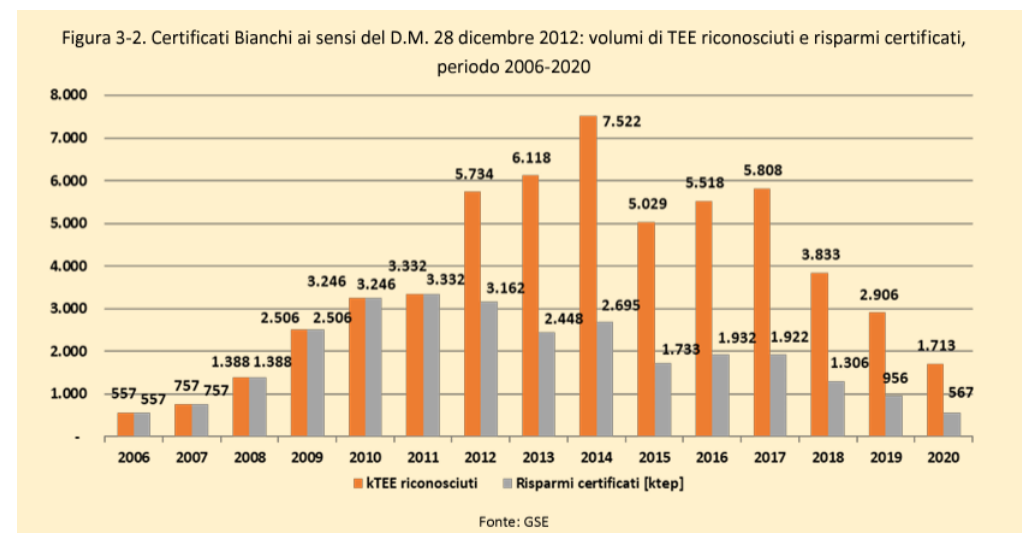
White Certificates

White Certificates (WhC) constitute the most relevant scheme for promoting energy efficiency in Italy.

WhC scheme is based on the obligation, placed on electricity and natural gas distributors with more than 50,000 domestic and non-domestic customers, to achieve a quantified target of energy savings yearly. These savings can be achieved through energy efficiency actions among end-users and are assessed using tons of oil equivalent as measurement unit.

**2005 -2019 end-use savings achieved from WhCs
equal to 6.02 Mtoe**

**No public availability of data
to identify SMEs throughout
the whole scheme
implementation !**



National Energy Efficiency schemes and programmes targeted also to SMEs

White Certificates

Sample of 850 energy proposals evaluated

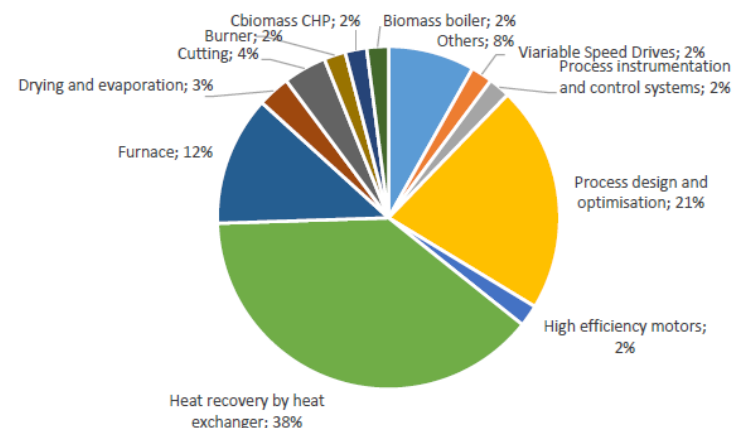
497 EE measures are referred to SMEs split in half between medium and small enterprises.

Many of those interventions are referred to the Industrial sector:

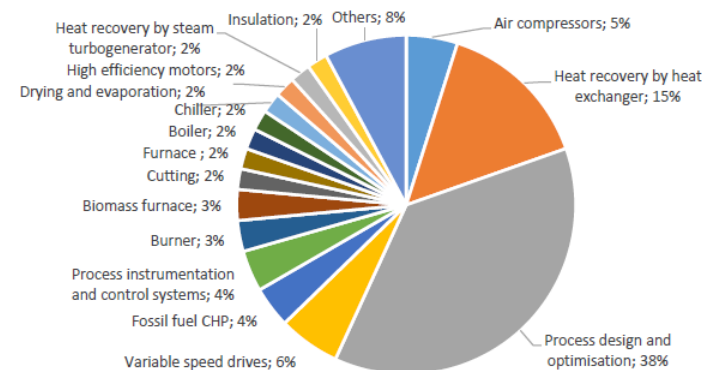
- ✓ 30% process control and optimization,
- ✓ 26% heat recovery through heat exchangers
- ✓ 7% EE improvements on the furnaces,
- ✓ 4% cross-cutting measures such as variable speed drives

(EU-Merci Project, 2017)

Energy efficiency measures for Small sized enterprises



Energy efficiency measures for Medium sized enterprises



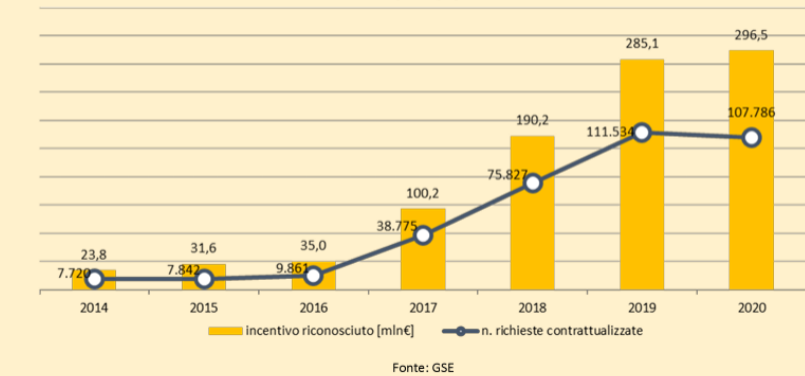
National Energy Efficiency schemes and programmes targeted also to SMEs

- **Renewable energy for heating and cooling support scheme:** subsidy for energy efficiency and renewable heating measures, mainly aimed to buildings and not on industrial processes.

No disaggregation of results!

- **National Energy Efficiency Fund:** investment fund providing incentives to public authorities and businesses, granting soft loans and guaranteeing financing operations for energy efficiency measures

Figura 3-5. Richieste contrattualizzate (numero) e incentivi riconosciuti (M€) in accesso diretto nel Conto Termico 2014-2020



National Energy Efficiency schemes and programmes targeted also to SMEs

Energy Intensive Industry programme

- ✓ All the **energy-intensive companies** (Large or SMEs) subjected to partial tax relief in the purchased electricity (registered in the list of the Environmental Energy Services Fund) are **obliged to carry out energy audits**.
- ✓ They are characterized by high electricity consumption (relatively to their internal costs and higher than 1GWh/y) and belongs to specific industrial sectors.
- ✓ According to the Legislative Decree 73/2020 **they are obliged to implement at least one of the energy efficiency measures identified in the energy audit**.
- ✓ At the end of July 2020 an overall number of **2845 energy audits regarding 2546 SMEs** had been submitted to ENEA. The 94% of those are manufacturing SMEs, with an overall consumption of about 8.8 Mtoe.

National Energy Efficiency schemes and programmes targeted also to SMEs

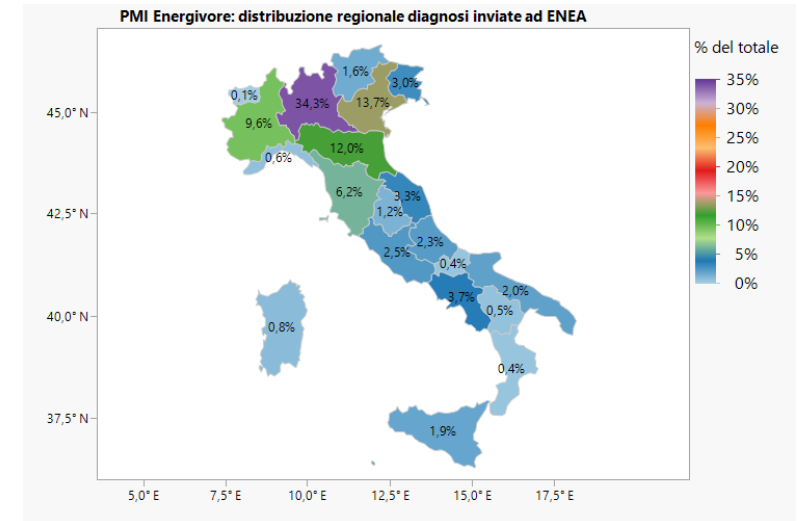
Energy Intensive Industry programme

2845 Energy Audits (2546 Companies) –July 2020

- ✓ 14% Micro
- ✓ 40% Small
- ✓ 46% Medium

94% Manufacturing SMEs (overall consumption 8,8Mtoe)

- ✓ **Global savings of 102 ktoe/year** corresponding to about to 1.1% of the total consumption of SMEs and to 14% of the total savings from interventions by Large and Energy-intensive Companies.
- ✓ 60% of the interventions in three areas: lighting (26%), production lines (17%) and general interventions (15%) which include the installation of monitoring systems, ISO 50001 etc.



Regional actions to support the implementation of energy audits for SMEs

- ✓ **Promotion and support for energy audits in SMEs in Italy was mainly entrusted to the regions**
- ✓ Italian regions, since 2016, have promoted and supported the carrying out of energy audits in SMEs through the co-financing of national funds or using European funds
- ✓ In 2015, **EUR 15 million was made available for the co-financing of regional incentive programmes for energy audits of SMEs or the adoption of energy management systems in accordance with ISO 50001**. A further EUR 15 million was provided by the Regions. Altogether the funding covered 50 % of the energy audit costs.

Regional actions to support the implementation of energy audits for SMEs

Impact of regional calls

- ✓ **Not all Italian regions have joined the calls** and among those that have implemented a regional call only Lombardy (234 companies), Sardinia (58 companies, 29 of which also reported EE interventions) and Campania (56 companies audits and funded interventions) have achieved concrete and satisfactory results.
- ✓ Good results obtained in few regions are **mainly due to the fact that the regional calls also included the financing of the energy efficiency intervention implemented after the audits.**
- ✓ The call of the Emilia Romagna region has obtained good results (156 financed companies) thanks to the extension to 100% of the contribution for the costs for the realization of the EAs or for the adoption of ISO 50001 and the establishment of a Subsidized Finance Fund aimed at supporting companies also for the realization of EE interventions.

Innovation policies devoted to SMEs

Objective	Target	Measure	Link
Innovation	SMEs	Capital goods support scheme (Nuova Sabatini)	https://www.mise.gov.it/index.php/it/incentivi/impresa/beni-strumentali-nuova-sabatini
		Sustainable Investments 4.0	https://www.mise.gov.it/index.php/it/incentivi/impresa/investimenti-sostenibili-4-0
		Guarantee Fund for SMEs	https://www.fondidigaranzia.it/
		Italy's National Strategy for innovative start-ups and SMEs	https://www.mise.gov.it/index.php/it/per-l-impresa/innovazione2

Conclusions

- ✓ **Energy efficiency and innovation in the SMEs have been recently recognized as crucial as demonstrated by the development of several policies.** Most of the policies are voluntary agreements focused on economic aspects (mainly grants, loans and tax deductions), with a scarcity of informative programmes.
- ✓ Further effort in monitoring and harmonizing the information on the impact of national and regional policies on SMEs could help policy makers to evaluate their effectiveness and weakness.
- ✓ In the case of policies not only targeted to SMEs, the **comparison of results and cost effectiveness between SMEs and large enterprises could provide insights for better tailoring existing measures and removing barriers.**
- ✓ **Innovation in SMEs can also be considered as a driver for energy efficiency while increasing competitiveness in SMEs towards the energy transition.** Monitoring system for innovation policies aimed at identifying the direct and indirect energy efficiency impacts linked to innovation would help in reinforcing this interaction and quantify the associated multiple benefits.



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