



Italian National Agency for New Technologies,
Energy and Sustainable Economic Development

The role of EPC data in the development and the assessment of energy efficiency policy - case study of SIAPE

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European Green Deal goals

2030

Fit for 55: domestic reduction in greenhouse gas emissions



2050

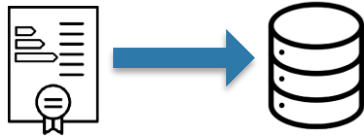
Achieving climate neutrality

Increase the knowledge about the buildings and estimate the evolution of their energy performance is crucial to reach EU's targets.

EPC registers are a powerful tool to perform these evaluations as they make it possible to combine all the EPC data and compare them with the building requirements issued by law over time

EPC registers in Europe

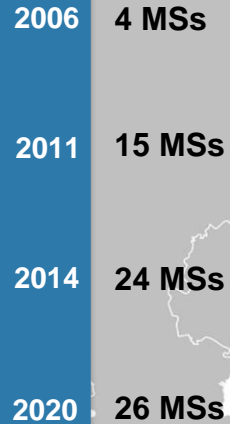
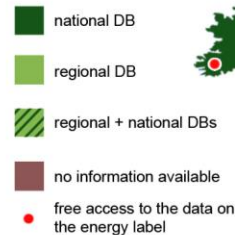
EPC REGISTERS ARE DEVELOPED VOLUNTARILY



Almost all the MSs developed a national EPC register as it is the most effective solution to monitor and control the EPC information, as required by the EU.

Sources:

BPIE «Energy Performance Certificates across the EU - A mapping of national approaches» October 2014
X-Tendo H2020 project «Energy performance certificates assessing their status and potential» March 2020
QualDeEPC H2020 project «D2.1 Report on local EPC situation and cross-country comparison matrix» March 2020



The Italian national system

SI/PAPE

Sistema Informativo sugli
Attestati di Prestazione Energetica

The **Italian Informative System on Energy Performance Certificates (SI/PAPE)** is the national tool to collect the EPCs issued for buildings and building units.

2015

The Ministerial Decree 26/06/2015
issued SI/PAPE



2016

ENEA develops the DB and the interface
for Regions and Autonomous Provinces



2020

ENEA publishes the online Portal of
SI/PAPE (<https://siape.enea.it>)

PUBLIC AREA

Anyone can consult SI/PAPE
aggregated data.

PRIVATE AREA

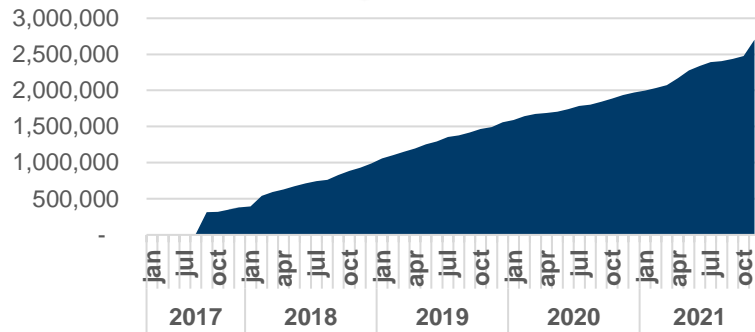
Regions, Autonomous Provinces,
and Municipalities can consult
disaggregated EPC information
based on their territorial
competence.



The Italian national system

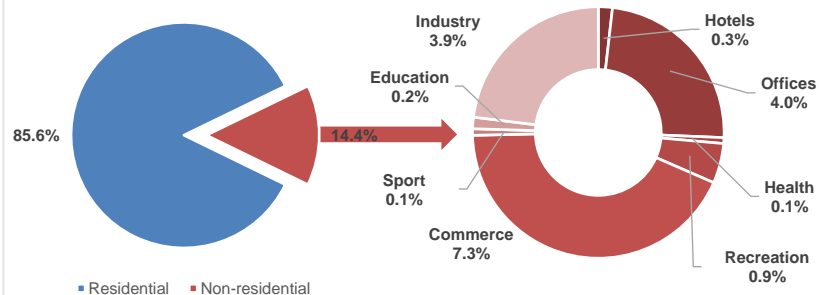
Data transmission

All Italian Regions and Autonomous Provinces have developed an EPC register.



Representativeness

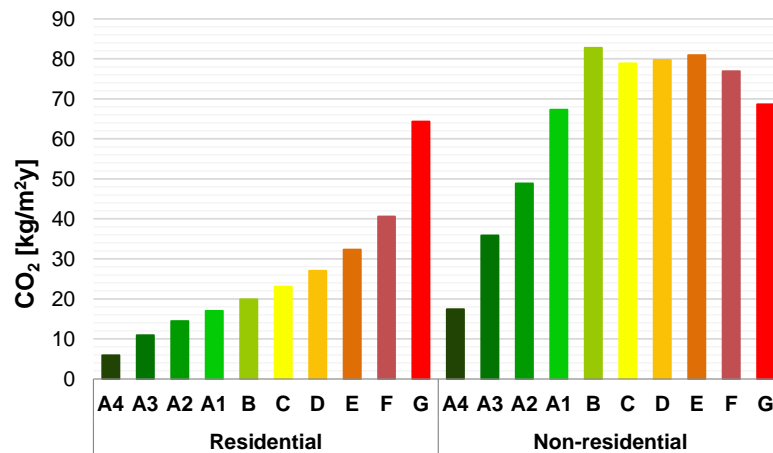
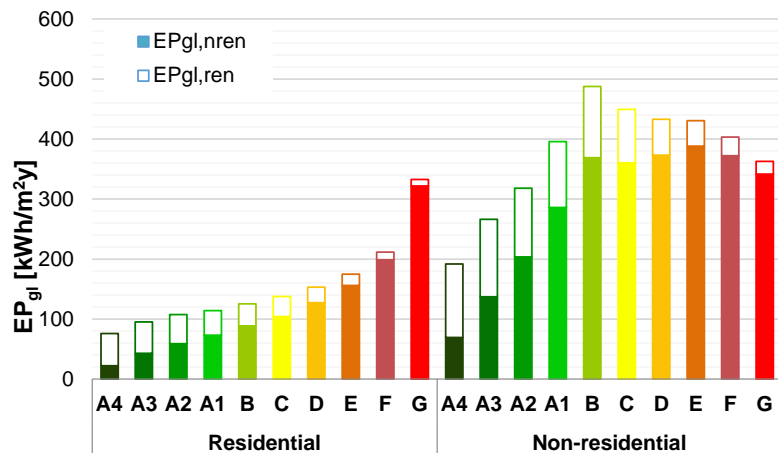
SIAPE EPCs were considered representative of the Italian building stock and the certified one by comparison with national building censuses.



Overview on the Italian certificated building stock

The energy performance of the Italian building stock is expressed through the main Energy Performance Indices shown in the EPC by energy label (from A4 to G).

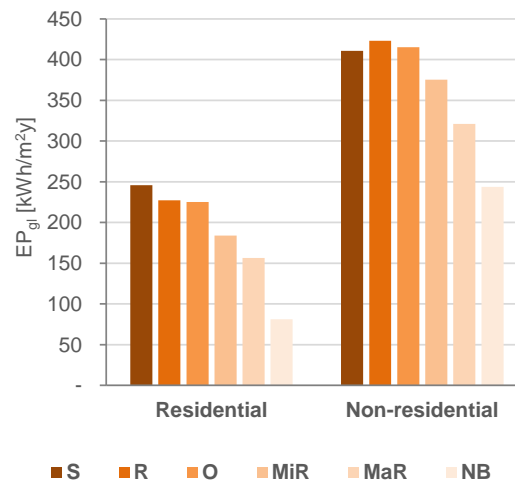
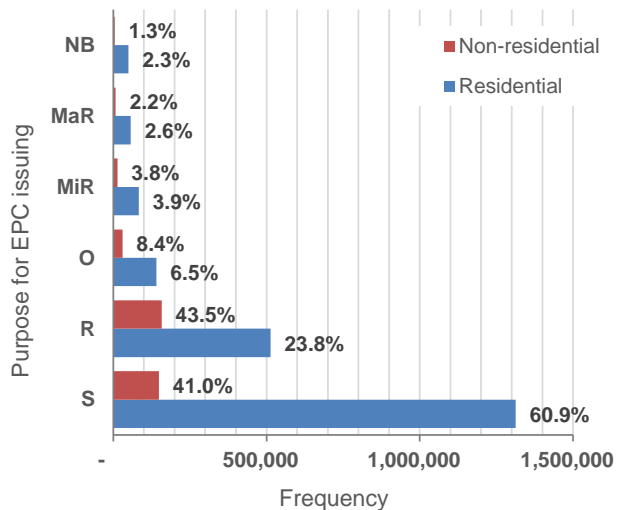
- Global Energy Performance Index (sum of the non-renewable and renewable components);
- Calculated CO₂ emission.



Energy strategies and minimum requirements

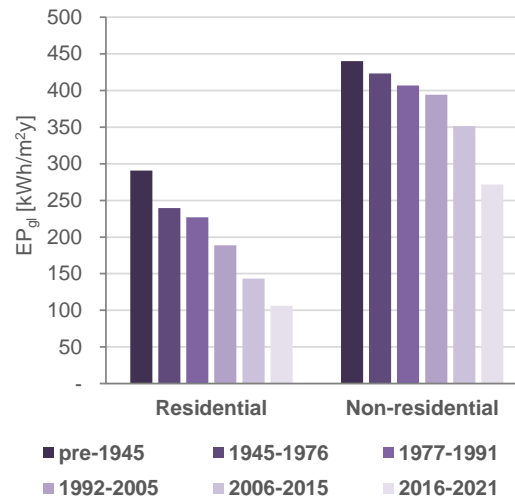
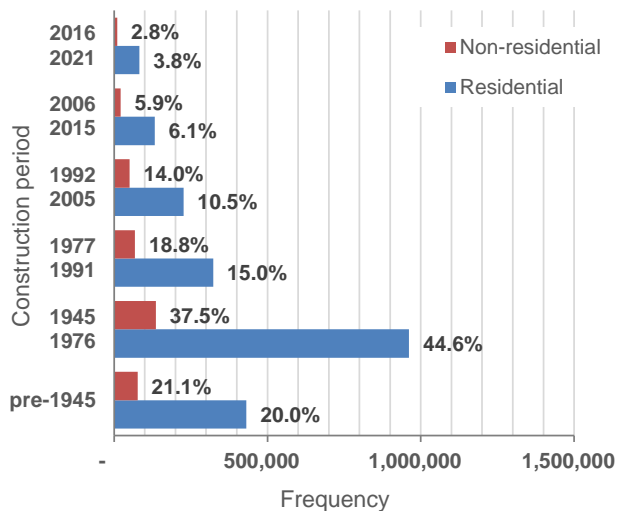
The impact of the application of energy performance strategies can be analyzed through the analyses of the **purpose for EPC issuing**.

This parameter allows evaluating the effects of the minimum requirements set by law for new buildings (NB), major renovations (MaR), and minor renovations (MiR).



Energy policies: energy regulatory framework

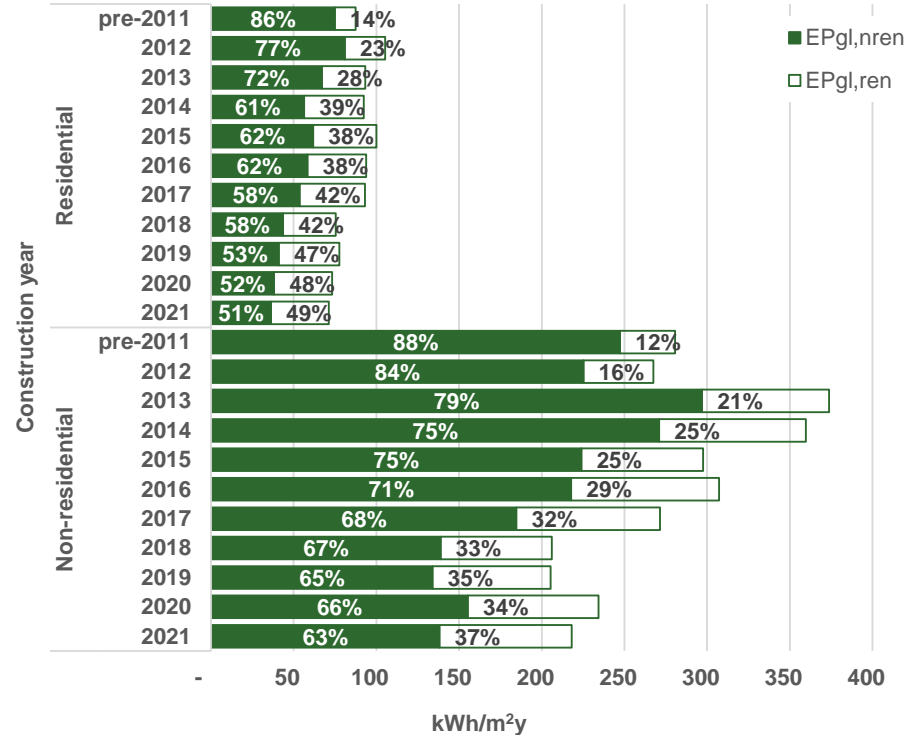
The impact of the energy efficiency regulation can be investigated by analyzing the evolution of the energy performance indices by **construction period**.



Energy policies: RES use

The RES use requirements were evaluated by quantifying the **RES component of the $E_{p,gl}$ against the non-RES one** by construction year for existing non-renovated and new buildings.

The construction year 2011 is a threshold to investigate the evolution before and after the implementation of the **Legislative Decree 28/2011**.



ENEA has started publishing the National Report on Building Energy Certification in 2020 with the collaboration of the Italian Thermotechnical Committee (CTI)



Available at:

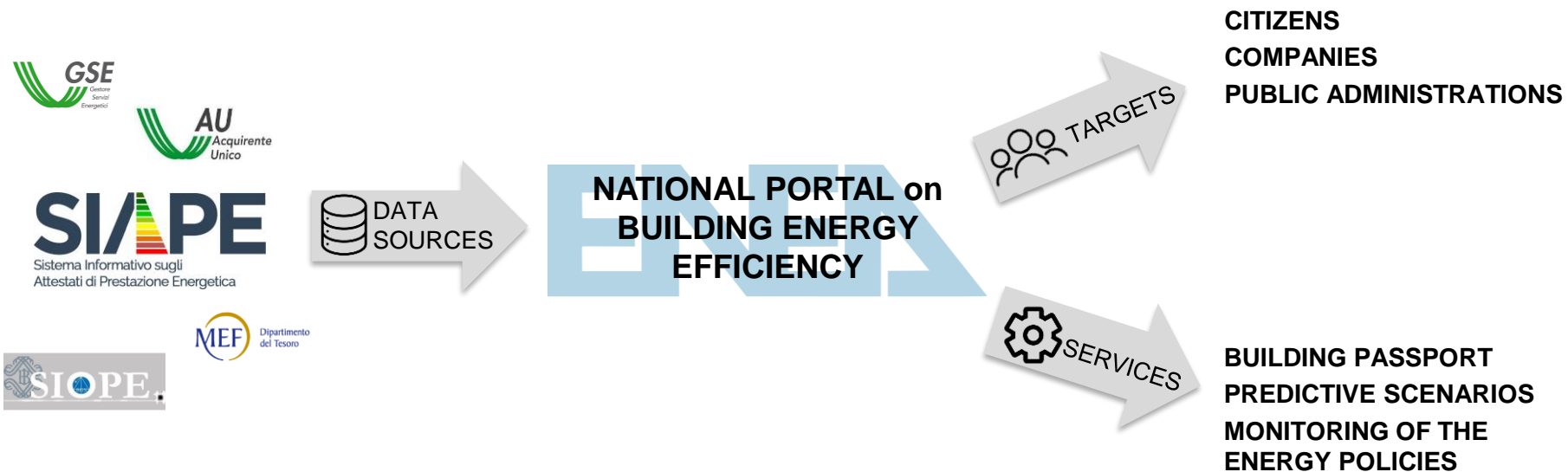
<https://www.energiaenergetica.enea.it/pubblicazioni/rapporto-annuale-sulla-certificazione-energetica-degli-edifici-2020.html>



To be published on 16 December 2021

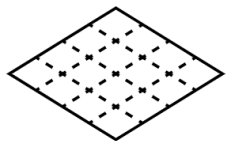
Future developments

ENEA will develop the **national portal on building energy efficiency** in the next three years.



Conclusions

What does an extensive EPC data analysis allow?



Mapping: non only building energy performance, but also other information related to the building or the EPC



Impact of energy efficiency and building design strategies in the pre-post analysis



Predictive scenarios development and energy planning for the identification of areas with major need of renovation



Evaluation of the EPC methodology and possible implementations

Other information on possible EPC applications in: Pasichnyi, O., Wallin, J., Levihn, F., Shahrokni, H., Kordas, O., 2019. Energy performance certificates — New opportunities for data-enabled urban energy policy instruments? Energy Policy 127, 486–499

Conclusions

EU'S NETWORKS ON EPC IMPLEMENTATION AND DEVELOPMENT ARE IMPORTANT TO REACH AN HARMONIZATION OF THE ENERGY CERTIFICATION SCHEMES

ENEA's Department on Energy Efficiency is actively involved in some of these initiatives



<https://epbd-ca.eu/>



<https://x-tendo.eu/>

**Thank you for
your attention!**

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