Country Report 2021 - Italy

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ASSOCLIMA is the Association of Air Conditioning Systems Manufacturers federated to ANIMA Confindustria. Founded in 1964, with its 67 members, more than 7,200 employees, a total turnover of 2.18 billion euros, an export share of 30%, it represents 85% in the (HP)VAC industry. Assoclima is member of EUROVENT, EHPA and APPLia Europe.

Activities are managed among:

n. 4 Committee
(Technical, Marketing & Communication, International Relationship, Energy and Environment)

n. 9 Product Group
(Air Conditioning, AHU, Cooling Towers, Fans, Fan-coils, Filters, Chillers, Mechanical Ventilation Systems, Roof-Top)

The ITALIAN HEAT PUMPS GROUP is an important part of the association. The key aim of the group is to contribute to the development of heat pump technology. Our target is to advocate legislators as well as inform the public.
Italy has the **largest natural gas distribution network** in the EU and it ranks **3rd** in total yearly consumption.

1.270 GW ----> 81% CH₄

Heat pumps 1,0%

275 TWh ----> 62% CH₄

Heat Pumps 1,1%
Italy | “a good place to be” for heat pumps

ONE country THREE climate zones

Cost for heating with electric heat pumps is same compared to natural gas and cheaper than oil.

Table 4.11-4: Energy prices - Italy

<table>
<thead>
<tr>
<th>Source</th>
<th>Price (€/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>0.22</td>
</tr>
<tr>
<td>Heat pumps (avg SPF)</td>
<td>0.08</td>
</tr>
<tr>
<td>Gas</td>
<td>0.07</td>
</tr>
<tr>
<td>Heating oil</td>
<td>0.12</td>
</tr>
</tbody>
</table>

MARKET

INCENTIVES

National Incentive Schemes and the first deployment of the EU Recovery Plan funds have boosted the heat pump market in Q3 2021.

9.5% only of A/A heat pump sales are considered as primary source for heating in countries in “warm climate zone” (Italy, Portugal, Spain, south France).

www.heatpumpingtechnologies.org
Homes heated by natural gas falling from nearly 30% of the total today to less than 0.5% in 2050.

Homes using electricity for heating rise from nearly 20% of the total today to 35% in 2030 and about 55% in 2050. Hybrid heat pumps are also used in some of the coldest climates, but meet no more than 5% of heating demand in 2050.
Technology | “SMART HEAT PUMP” | how to be supportive towards the grid

In Italy, the peak of the maximum marginal electric load is about to 8,000 MW and this demand occurs only about 100 hours/year.

With the deployment of heat pumps we could contribute to avoid the need to source this marginal load from power stations. This action generate high fixed costs which today are paid with the electricity tariff and are very expensive for the whole electric energy system in terms of investments.

Among many others, one of the most effective solutions could be to share data among heat pumps and the network load management system. By setting a “demand-response” interaction it could be possible to apply “micro power supply interruption” at "sub pod" level.
A “bivalent heat pump” is a package heat pumps\(^1\), where the heat pump is managing a condensing gas boiler with the aim to:

a) avoid to oversize the heat pump capacity

b) support the grid when needed.

Target climate: cold - average

RSE\(^2\) has performed a detailed study aimed to find the best ratio (heat pumps vs boiler).

**Multi Flats Building**

8 floors
40 flats
built in the ‘70s
cold climate Zone

Study performed by RSE with the property Carapace software

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\(^1\) according with 811/2013/EU Regulation package definition.

\(^2\) RSE Ricerca Sistema Elettrico | mission: develop research programs in the electrical-energy sector, targeting the entire national electricity system.
Accordingly with the conclusion of the RSE study, the best performing ratio among heat pump and boiler is 2:1 that is leading to:

1. 97% heat load satisfied by heat pump
2. -30% energy consumption (heat pumps)
3. limited CO₂ emission increase compared to heat pump only
Heat pumps (electric and gas driven), hybrid, condensing boiler are all eligible for incentives.
Policy I installer’s certification

**F-GAS certification**  | Italy is ranked **n.2** in EU with **73,400** certified installers listed in the public website [fgas.it](http://fgas.it) | From 09/2019 is mandatory to record equipment and intervention only by the [online logbook website](https).

**RES certification**  | EU Directive 2009/28/CE | The EU Directive was introduced in the Italian law framework in **2011**.

In **08/2013** have been decided that all the companies with NACE code related to the activities in scope and a technical manager owning the relevant professional knowledge codes, have been qualified to perform the above mentioned activities. From that date onward, the RES certification can be only obtained by enrolling the technical manager to a RES qualification training.

**RES training course**  | deployment and contents.

The responsibility for handicraft and vocational education belongs to each italian region that has defined the selection criteria for private companies that would like to perform the two kind of trainings foreseen:

1.  **FER qualification training**  | 80 hours | 800,00 euro + VAT (once in a life)
2.  **FER update training**  | 16 hours | 200,00 euro + VAT (mandatory every 3 years to all the the technical managers)

Each certificate must be sent to Chamber of Commerce that will upload it in the company’s folder.
Is the government body in charge of implementing the environmental policy. It is responsible for the EU Recovery Plan follow up.

Other matters to be tackled:
1. protection of biodiversity, ecosystems and marine coastal heritage
2. land and water protection,
3. policies to combat climate change and global warming
4. sustainable development, energy efficiency and circular economy, integrated waste cycle management
5. site remediation of national interest (SIN)
6. environmental assessment of strategic public investments
7. fight against atmospheric, acoustic, electromagnetic pollution and the risks deriving from chemical products and genetically modified organisms.

ENEA is the National Agency for New Technologies, Energy and Sustainable Economic Development, a public body aimed at research, technological innovation and the provision of advanced services to enterprises, public administration and citizens in the sectors of energy, the environment and sustainable economic development. Its focus sectors are energy technologies (renewable sources, energy storage, smart grids), nuclear fusion and nuclear safety energy efficiency, technologies for cultural heritage, seismic protection, food safety, pollution, life sciences, strategic raw materials, climate change. ENEA supports the productive system as well as public authorities in the transition towards the circular economy and the resource efficiency.

The company has been identified by the State to pursue and achieve environmental sustainability through the two pillars of renewable sources and energy efficiency [electricity].

Mission is to develop research programs in the electrical-energy sector, targeting the entire national energy system.
 TERNA IS EUROPE’S LARGEST INDEPENDENT ELECTRICITY TRANSMISSION SYSTEM OPERATOR (TSO). WE ARE ENGAGED IN DRIVING AND ENABLING THE ECOLOGICAL TRANSITION IN ORDER TO CREATE A NEW DEVELOPMENT MODEL BASED ON RENEWABLE SOURCES AND RESPECT FOR THE ENVIRONMENT. SUSTAINABILITY, INNOVATION AND DISTINCTIVE COMPETENCIES ARE BEHIND EVERYTHING WE DO, WITH THE AIM OF PROVIDING THE GENERATIONS TO COME WITH A CLEAN, ACCESSIBLE AND EMISSION-FREE ENERGY FUTURE.

Enel (Italy’s national entity for electricity) was founded in 1962 with the fusion of more than a thousand energy producers. With a solid bedrock of hydroelectric power as our starting point, our task was to power the country’s rapid growth. We modernized and extended the national grid, later connecting it to the European network.

In 2001 we designed and installed the world’s first smart meters. Becoming progressively more international, we acquired Endesa in Spain, established a major presence in Latin America, and bought North America’s first renewable energy plant. Innovation and sustainability had become our two biggest drivers, and in 2004 we became the first private company in the renewable power sector to be listed on the Dow Jones Sustainability Index.

HEAT PUMP SUPPLY CHAIN PERMANENT TABLE

Promoted by Assoclima, other members are (alphabetical order):

- AiCARR | culture of sustainable comfort (consultant)
- Amici della Terra Italia Onlus | environmental NGO
- Angaisa | wholesalers association
- Assital | installer’s association of technological systems installation, EE and FM services.
- Assotermica | association of manufacturers of appliances and components for heating systems
- CNA | national confederation of crafts, small and medium enterprises
- Confartigianato | national confederation of crafts, small and medium enterprises
- Elettricità Futura | association of companies operating in the Italian electricity sector
- Enel SpA | electricity supplier
- Unione Nazionale Consumatori | consumer association

Common targets:
1. enhance the knowledge about the heat pump technology to the end user.
2. support training activities to all players in the heat pumps supply chain
Initiatives and events

Assoclima has recently started to promote towards its members two initiatives aimed to enhance the knowledge about the possibility to establish an effective circular economy of products and refrigerants.

October 19, 2021
Circular economy: regenerative growth model
The conference/talk show held in live streaming, to suggest a change of perspective to the HVAC sector: from a linear economic system to a circular one, amplifying the concept of sustainability through the maximization of use and enhancement of the product in the end of life.

March 9, 2022
States-General: circular economy, circular city
In Fiera Milano during MCE 2022, a moment of confrontation between companies and those responsible for urban policies.