



LEGAMBIENTE

**THE ROLE OF GEOTHERMAL ENERGY IN A
SCENARIO 100% RENEWABLE**



Katiuscia Eroe
Responsible energy for Legambiente Onlus

THE ROLE OF GEOTHERMAL ENERGY

The geothermal energy - high, medium or low enthalpy - is renewable resource required, if we want to look to a future 100% renewable.

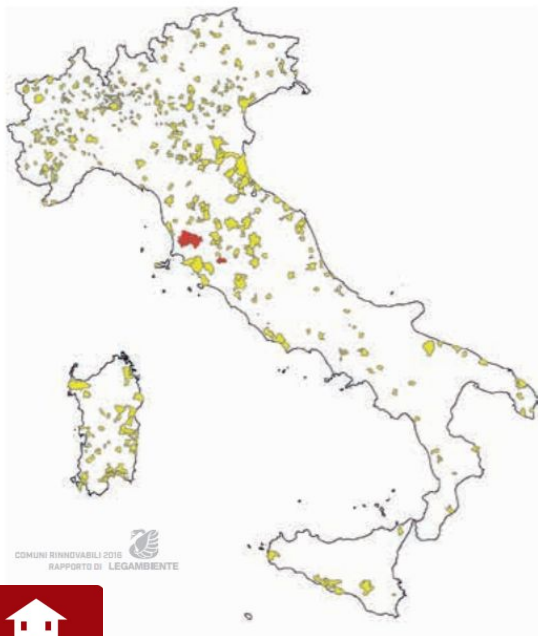
In this scenario the geothermal energy could play a strategic role to cover electrical and thermal needs.



THE ROLE OF GEOTHERMAL ENERGY

DIFFUSIONE DEGLI IMPIANTI GEOTERMICI
NEI COMUNI ITALIANI

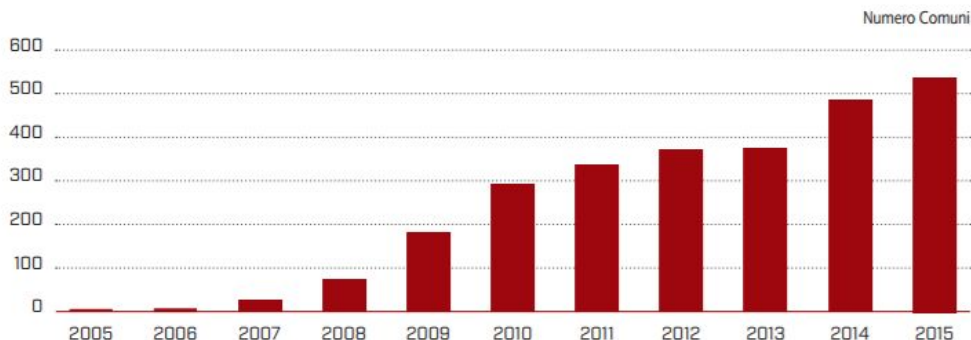
Impianti ad alta entalpia ■
Impianti a bassa entalpia ■



In Italy the geothermal plants are installed in **535 Municipalities**, 10 of these have high enthalpy plants

With a increase interest for the low enthalpy plants to satisfy the thermal needs of houses, public buildings and companies

I COMUNI DELLA GEOTERMIA



Rapporto Comuni Rinnovabili 2016 di Legambiente



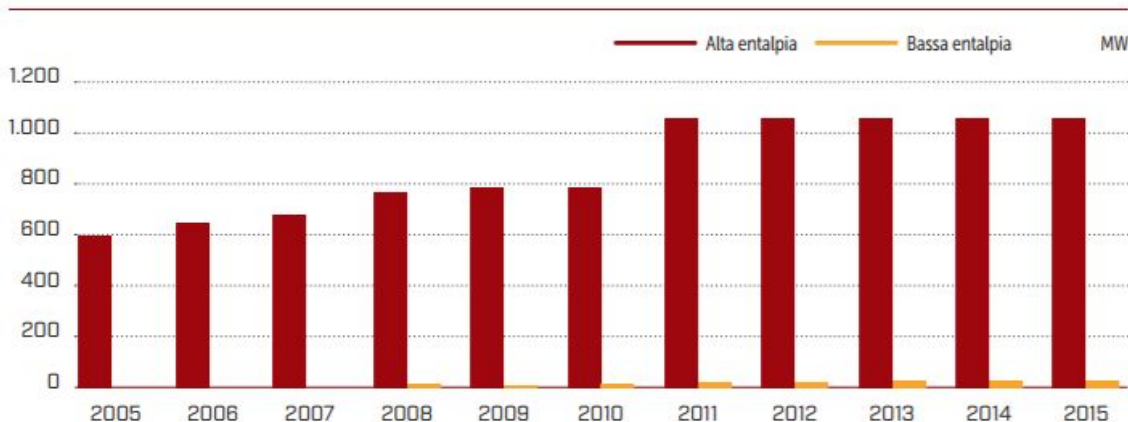
THE ROLE OF GEOTHERMAL ENERGY

Today there are 535 municipalities are installed low-enthalpy geothermal systems and heat pumps for a total capacity of 26.4 MW_{el}, 3.6 MW_{th} and 41.9 kW_{fr}

They were 5 the municipalities in 2006

These systems were important in the thermal sector, because they **have approached the supply and demand**

GEOTERMIA LA CRESCITA DELLE INSTALLAZIONI IN ITALIA



Rapporto Comuni Rinnovabili 2016 di Legambiente



THE ROLE OF GEOTHERMAL ENERGY

As with all renewable technologies it's necessary to pay attention where and how the plants are project. The Italian geothermal history teaches where to look and technological innovation is doing its part in solving some problems.



THE ROLE OF GEOTHERMAL ENERGY

3 rules for the development of a good geothermal plant

We are faced with three different types of sources, low, medium and high enthalpy

For medium and high enthalpy

- The plants must be integrated with the territory, bring environmental benefits, energy and socio-economic. It must approach the demand to the production, not only to follow the requirements of the COP 21 in Paris but also to support the development of a new energy system, distributed and to service the territories
- In this direction it is essential to establish rules of participation and collaboration with local authorities, in Italy: Regions and Municipalities
- The plants must be developed not only on the basis of the energy potential but also on the basis of specific environmental, seismic, landscape and hydrogeological criteria, certain and transparent



THE ROLE OF GEOTHERMAL ENERGY

Follow this rules

give certainties to citizens on the quality of the plant but also to investors on the implementation and timing

it shares with the citizens of decisions affecting their territory overcoming the non-technological barriers to the development of these facilities

It ensures proper development of plants which our country and our families will need





LEGAMBIENTE

THANK YOU!

Katiuscia Eroe

Responsible energy for Legambiente Onlus

k.eroe@legambiente.it

