Fri-el is in a leading position as a producer of green energy in Italy. Our core business units are Wind, Photovoltaic, Biomass, Hydro and Biogas powerplants.

The overall installed capacity is around 1.200 MW with the annual production of approximately 2.700 GWh.

We focus on sustainable, eco-friendly development and long-term investments and create value for our partners and stakeholders though sustainable investments, consistent risk management and innovative thinking.

# PROJECT PANGEA: HOW THE IDEA ORIGINATED

## *PHASE I DEVELOPMENT OF FRI-EL GREEN HOUSE*

*Back in 2016, the Gostner Family establishes a new business in the hydroponic sector, in particular in the cultivation of hydroponic tomatoes through high tech greenhouses:* ***Fri-El Green House***

*LOW ENVIRONMENTAL IMPACT BUT HIGH ENERGY AND THERMAL REQUIREMENTS*

## *PHASE II GREENHOUSES BACKED BY GEOTHERMAL PLANT: OSTELLATO CASE STUDY*

*Ostellato, the location where Fri-El Green House is established, can be exploited through the* ***construction of a geothermal plant*** *to comply with an increasing need of energy requirements by Fri-El Green House*

*CONSTRUCTION OF OSTELLATO FIRST GEOTHERMAL PLANT*

## *PHASE III GEOTHERMAL AS NEW, UNIQUE TRANSACTION OPPORTUNITY: FRI-EL GEO*

*Further studied conducted by the Fri-El engineering team, together with a team of dedicated specialists within the geothermal sector, understand that* ***deep geothermal plants could dramatically improve energy needs*** *especially in the Northern Italy*

*FRI-EL GEO COMES TO REALITY: PROJECT PANGEA*

# KEY FEATURES OF THE GEOTHERMAL TECHNOLOGY

## GEOTHERMAL PLANTS FEATURES

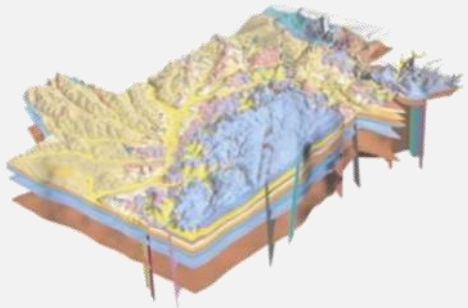
- The strong regulatory push to **reduce Green House Gas ("GHG") emissions**, together with the recent geopolitical development in Europe, made more and more important increasing national energy independency from natural gas import
- **Medium-enthalpy binary cycle geothermal plant** coupled with an **Organic Rankine Cycle ("ORC")** system can **provide both thermal energy and electricity** from a reliable source**, without any GHG emission, 24/7** and with a **high predictability**
- Key components of the geothermal system:
  - **Doublets (2 wells)** for **brine extraction** and **injection** in the reservoir
  - **ORC system** to produce electricity
  - **Connection** to **district heating network**

## ORC FUNCTIONING

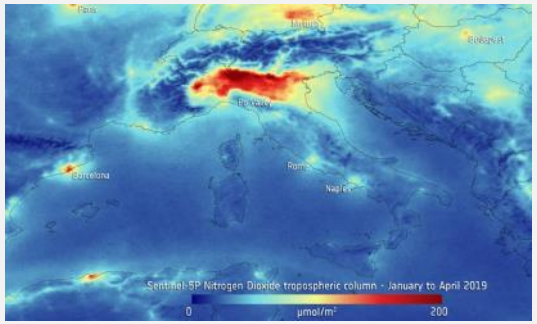
- The **4/5 doublets** consist of **a production well**, from which a submerged **extraction pump takes the geothermal brine**, and **an injection well**
- The **organic oil** in the ORC cycle is **heated up through a heat exchanger**
- In the ORC cycle, the **heated organic oil is expanded** into a turbine, **generating mechanical energy**, which in turn is **converted into electricity in the generator**
- The vaporized oil is condensed and **returned to the heat exchanger**

# MEDIUM-ENTHALPY GEOTHERMAL TECHNOLOGY: REVOLUTION IN THE CONTEXT OF THE ITALIAN ENERGY TRANSITION

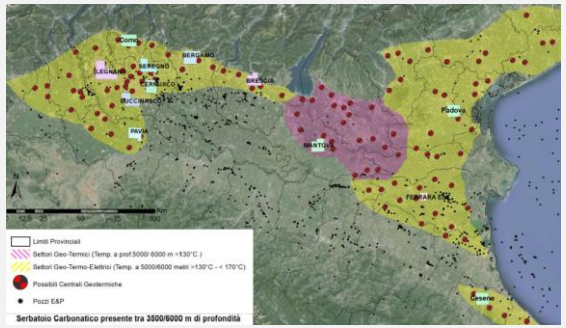
In the last 50 years, the **Po Valley has been extensively studied** in the context of oil & gas exploration by ENI



Fri-El Geo combined the acquired know-how with subsoil analysis on geothermal brine, **mapping the whole area, one of the most polluted in Europe…**




…and realized that **medium-enthalpy binary cycle plants with zero environmental impact can be installed in more than 100 possible eligible sites**




Each plant has a heat power between 150 MWt and 200 MWt and less than 1 hectar of soil consumption

*20GWt potential capacity*

100 plants installed in the Po Valley (most connected with district heating network) would reduce gas consumption by more than 10bcm

*-10%/15% national gas consumption*

Equivalent to minus 17,3 mTon of CO2 emissions in the Northern part of Italy

*-17,3 mTon of CO2 emissions*

A DISRUPTIVE ESG OPPORTUNITY FOR SIGNIFICANT REDUCTION OF GAS DEPENDENCY AND IMPROVEMENT OF THE AIR QUALITY IN THE NORTHERN PART OF ITALY

# MINIMAL MINING RISK DUE TO TECHNOLOGY IMPROVEMENTS IN THE SUBSOIL EXPLORATION

In-depth knowledge of the subsoil to identify areas for the exploitation of geothermal resources

1

In the last 2 years, FRI-EL Geo has been able to find **potential geothermal areas to develop and operate new medium-enthalpy binary cycle geothermal plants**

- the knowledge of the subsoil is mainly based on the **E&P methodology** and **data resulting from the Oil&Gas exploration** over the last **40-50 years**

2

Through **exploratory wells and seismic reflection data**, the Company identified **potential geothermal reservoirs**

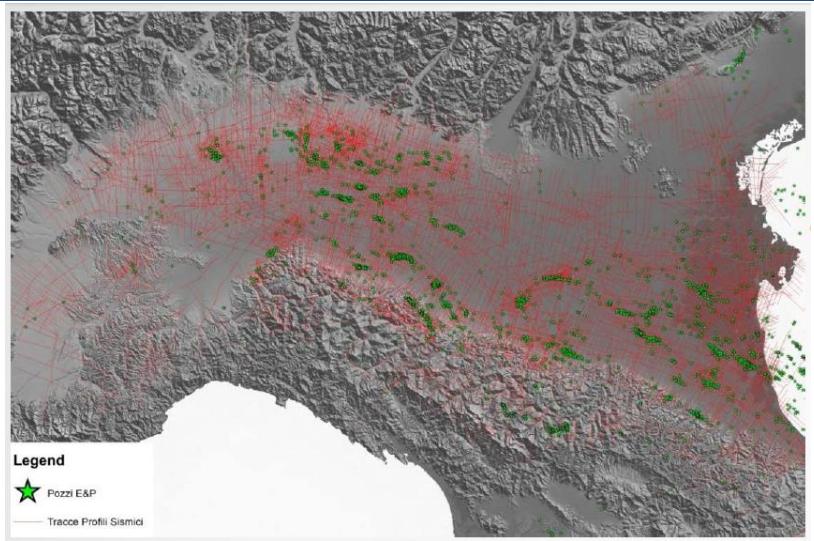
- It has been possible to carry out an initial analytical evaluation. Below the key features:
  - **In-depth temperature ≥ 130° Celsius;**
  - Within **5-6km depth** below the surface;
  - Next to **major urban centers** in the Northern and Center Italy;
  - which already have, or have the predisposition for, **district heating networks to connect geothermal plants**

3

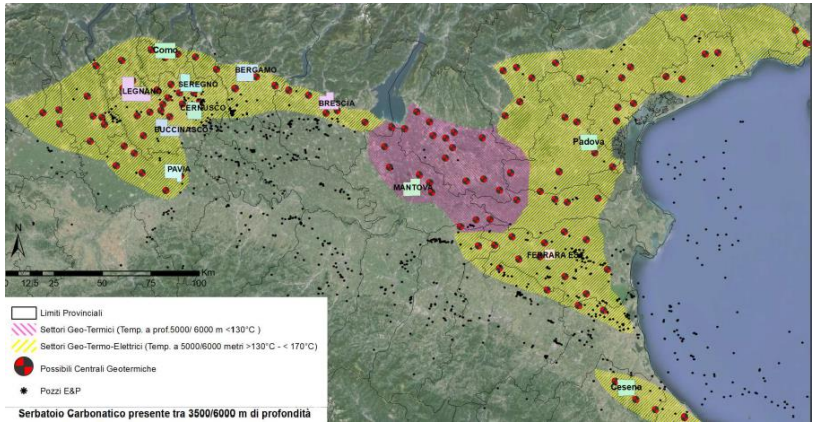
The Company combined these results together with environmental/logistics assessments, **defining suitable areas** for the **research permits** and **geothermal projects**, significantly **reducing the mining risk**

IN ADDITION, THERE IS THE POSSIBILITY TO ACCESS THE INCENTIVES PROVIDED BY THE FER II SCHEME FOR THE PRODUCTION OF ELECTRICITY FROM ZERO-EMISSION GEOTHERMAL PLANTS, WHICH IMPROVES THE PROFITABILITY PROFILE OF THE PROJECTS

## MAP OF EXPLANATORY WELLS AND SEISMIC REFLECTIONS




## MAP OF POTENTIAL AND SELECTED GEOTHERMAL PLANTS

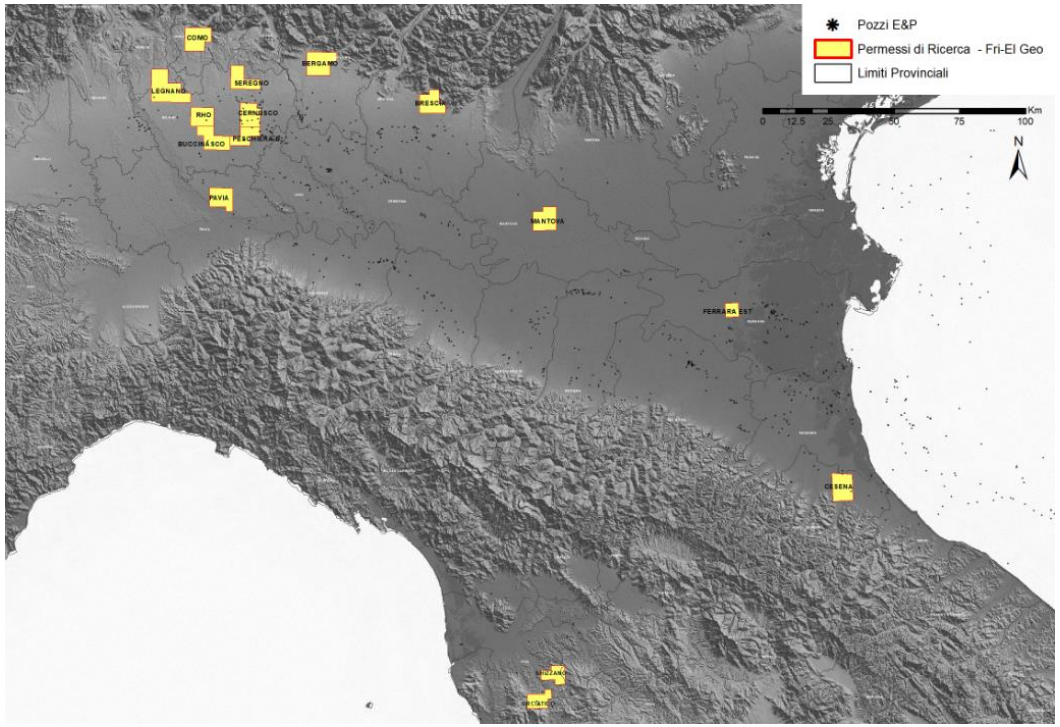


# SECURED RESEARCH PERMITS ON EXCLUSIVITY FOR THE NEXT 6 YEARS

Retaining first mover advantage over densely populated agglomerate/cities

- FRI-EL Geo individuated **more than 100 suitable potential areas** over which develop new geothermal plants, selecting then the best 15, which are highlighted in yellow in the map here below, to start the development activities in the next future
- **FRI-EL Geo therefore requested the Research Permit to the competent authority over all these 15 areas**: at conclusion of these procedures, which is expected by end of June 2023, **FRI-EL Geo will be secured with a 6-year exclusive permit to start the development activities**
- This is a key feature of this investment opportunity, considering the **positioning of the permits** (near densely populated agglomerate/cities) and the exclusivity characteristic, which will allow FRI-EL Geo **to retain its first mover advantage** *vis-à-vis* potential competition

## RESEARCH PERMITS LOCALIZATION



# NATIONAL POLITICAL SUPPORT

**FRI-EL GEO'S GEOTHERMAL TECHNOLOGY HAS BEEN PRESENTED TO MR. PICHETTO FRATTIN, ENVIRONMENT AND ENERGY SECURITY ITALIAN MINISTER, THAT FULLY UNDERSTOOD THE POTENTIAL OF THE OPPORTUNITY GIVING FULL SUPPORT**

On January 17th, 2023, Minister Pichetto Frattin at Confindustria Energia conference stated: *"Energy dependence on foreign countries is a handbrake to our country's growth"*.

The international reference framework has changed and *the Italian Government wants to seriously address the issue of energy dependence*.

Minister Pichetto Frattin will push on *new forms of energy production* such as *hydrogen* and *the development of realities such as geothermal energy*

GEOTHERMAL ENERGY WILL RECEIVE FULL REGULATORY SUPPORT (INCL. INCENTIVE)

AS ONE OF

THE MOST DISRUPTIVE TECHNOLOGY TOWARD THE ENERGY TRANSITION

AS IT SECURES AND PROVIDES

24/7 AVAILABLE GREEN THERMAL POWER

# HIGH ENTRY BARRIERS

Fri-el Geo benefits from a unique market position thanks to R&D know-how, timing (ca. 2 years from permitting to drilling phase) and financial resources to be deployed

**R&D KNOW-HOW**

- Detailed information on subsoil need time and deep geological knowledge from experienced professionals to be successfully exploited (**average success rate of exploration drilling <20%**)

- Thanks to **broad research activities and a detailed database**, Fri-El Geo identified **+100 potential sites** (picking the **best 15**) leveraging on an **extensive database** to determine the presence of suitable sites for geothermal plant's developments

- Deep geothermal plants, with drillings at more than **5,000 meters in Earth depth** and **binary cycle technology**, have to be carefully engineered and constructed by experienced professionals in order to **minimize the execution risk**

- FRI-EL Geo has **partnered** with **best-in-class companies** to **clear construction risk related** to **drilling activity**

FRI-EL GEO HAS ALREADY SET CONVERSATIONS WITH LOCAL UTILITY COMPANY IN ORDER TO DISCUSS PRELIMINARY TERMS OF DISTRICT HEATING CONNECTION

FRI-EL GEO

# THANK YOU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