

## Arverne Group in a nutshell

Sub-surface solutions for energy transition





**What we do?** We are a CleanTech developing subsurface resources to solve key energy transition challenges



**How we do it?** A fully-integrated organization though subsidiaries (2gré, Arverne Drilling Services and Lithium de France) involved across the entire value chain of geothermal heat and lithium



**Who we are?** A purpose-driven company with c. 150 employees at 7+ sites and worksites in France



**Why we do it?** Arverne Group advocates audaciously for a pragmatic energy transition and for a virtuous society by relying on women and men within the company and territories





Bischwiller (67) Vendenheim (67)

Schiltigheim (67)



**Headquarters** 











# aryerne

Decarbonizing heat supply and becoming the future French leader in geothermal energy and low-carbon geothermal lithium, driving the energy transition











Arverne Group is a well-established company active across the entire value chain of geothermal heat and lithium though its subsidiaries

Shallow geothermal energy

Aquifer geothermal energy

Deep geothermal reservoirs with production of critical metals

## 2gré

EXPLORATION AND
EXPLOITATION OF GEOTHERMAL
ENERGIES FOR HEAT
PRODUCTION



5 exploration licenses already granted with production to start in 2025



1<sup>st</sup> pilot project in 2023 (shallow energy)

Drilling of first doublet in 2024 (deep energy)



FROM EXPLORATION TO
PRODUCTION OF GEOTHERMAL
ENERGY AND BATTERY GRADE
LITHIUM SALTS



> 320 km2 of premium acreage granted for exploration (3 licenses)



*\_))))* Hydro

**Co-Investors** 

## aryerne DRILLING

IN-HOUSE OWNERSHIP AND OPERATORSHIP OF DRILLING RIGS IS KEY TO UNLOCK VALUE SAFETY AND EFFICIENCY



60 years of drilling experience



€8m 2023 backlog



3 rigs at end of 2023



5,000m depth drilling capacity



SHALLOW GEOTHERMAL
DRILLING AND GEOTHERMAL
PROBES INSTALLATION



3 drilling machines at end of 2023



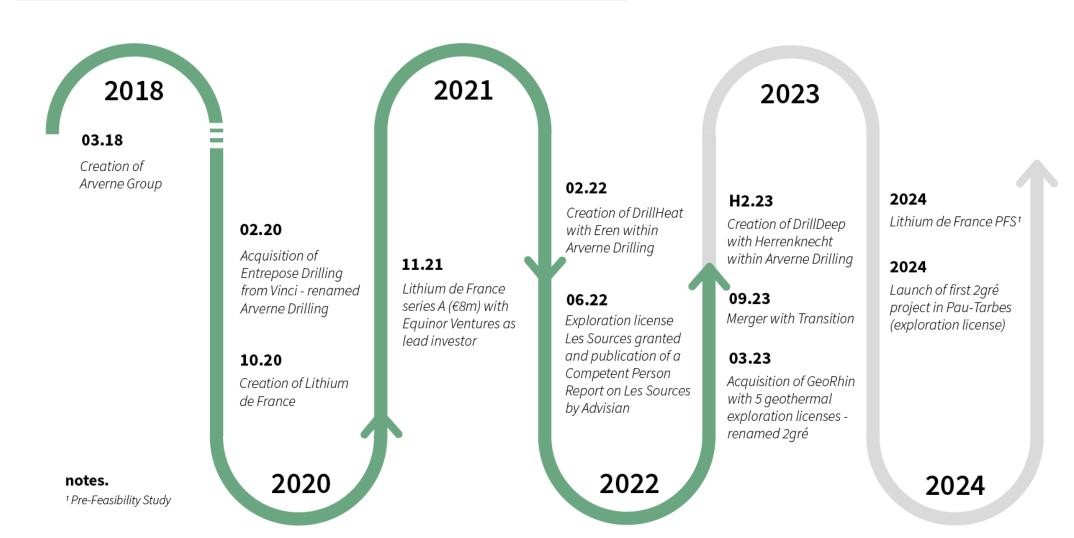
200m depth drilling capacity





## **Key Milestones**

Arverne Group has already reached many milestones, through collaborations and the backing from world-class parties









Arverne Group is a **listed company** since September 19th, 2023 on Euronext Professional compartment – Index Euronext tech leaders.

> Ticker | ARVEN Raised amount €163m **Number of shares** | ~34 millions







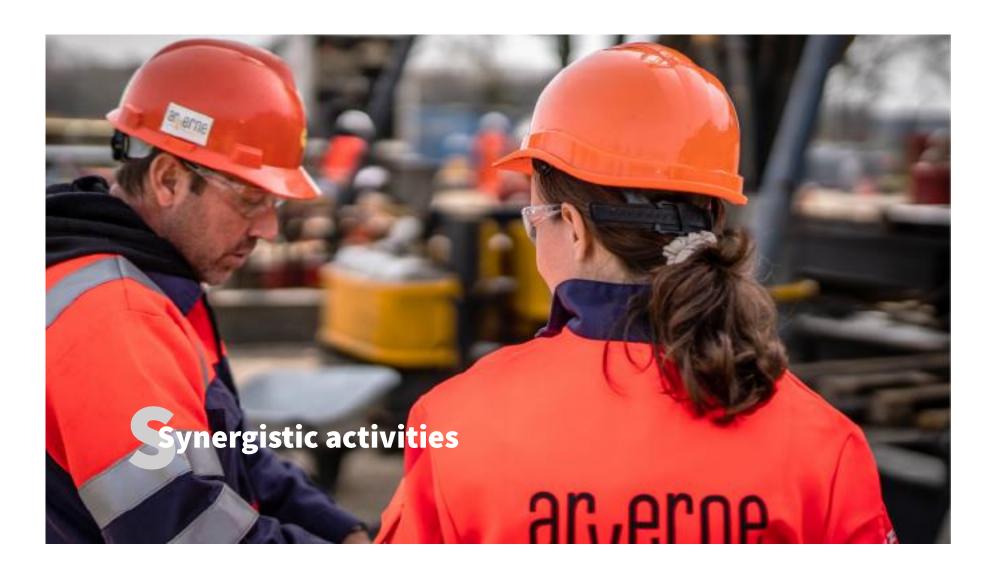














## **2gré**Geothermal heat for energy transition





**5** explorations licences granted



1<sup>st</sup> geothermal production in 2025



Btw 10-15 new projects per year

#### **BUSINESS DESCRIPTION**

- Develops and operates **geothermal heat production**, with stable and sustainable revenues
- Aiming to become one of the leading European operator in geothermal heat

#### **DEEP GEOTHERMAL ENERGY**

**Key figures:** 200-4000 meters deep | Temperature: 20-150°C Main use: heating network for cities and industrial clients

**Ambition:** becoming one of the geothermal leaders in heating networks over the next 10 years, with a production over a TWh/y targeted in 2030, and up to 15 new projects per year targeting all geological geothermal basins in France

#### **SHALLOW GEOTHERMAL ENERGY**

**Key figures:** <200meters deep | Temperature: 10 to 20°C Main use: heating & cooling with geothermal probes

Ambition: developing shallow geothermal energy throughout metropolitain France







## **Lithium de France**

The first French independent renewable heat and geothermal lithium operator





First lithium production in 2027



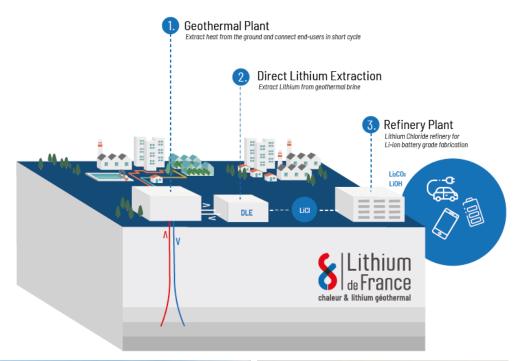
Over 320 km<sup>2</sup> of premium exploration acreage (3 licences granted, additional in progress)

#### **BUSINESS DESCRIPTION**

- Combined production of decarbonized heat and low carbon battery grade lithium salts from geothermal brines
- Contribute to the local economy decarbonization, the sovereignty of energy and critical materials supply, as well as the green re-industrialization of the region
- Aiming to become the national champion and a European leader of geothermal lithium











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Source Lithium de France



### **Arverne Drilling Services**

a strategic tool for Arverne Group's ambition





c.73 employees



3 drilling rigs



5,000m Max. drilling capacity



#### **BUSINESS DESCRIPTION**

- Serves the group's companies in their drilling needs
- Importance of a proprietary drilling tool to guarantee the control of rig availability and timing of drilling operations
- Partnership with Herrenknecht, a German manufacturer of drilling equipment, with a strong industrial and innovation capacity, allowing the complete renewal of the fleet with specifically designed machinery for the geothermal markets









## **GEOTHERMAL DRILLING** at any depth

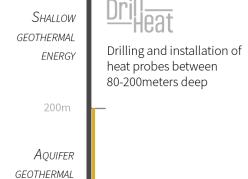
**ENERGY** 

2500m -

DEEP

**GEOTHERMAL** 

RESERVOIRS





medium/deep wells from 200meters down to few thousands meters



Source Arverne Drilling Services



## <u>ar<sub>v</sub>erne</u>

### **DRILLHEAT**

a business unit dedicated to shallow wells



c.15 employees end of 2023 Target avg 2025 > 50



3 drilling machines

end of 2023 Target avg 2025 > 15



2023 Revenues Target 2025 > 20m



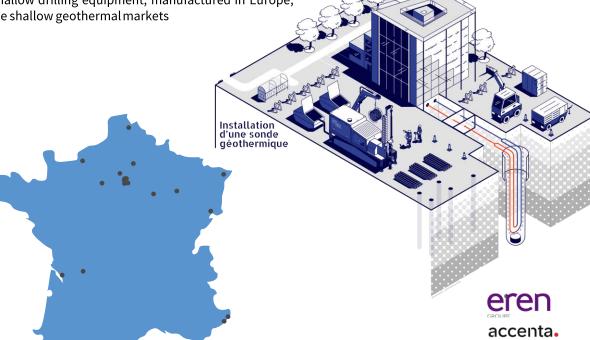
Max. drilling caoacity

#### **BUSINESS DESCRIPTION**

• The necessary complement to **be present in all segments of the geothermal market** and in line with the current Arverne's know how.

• Serves a large demand from multiple type of clients and prepare Arverne Group to enlarge its proposal for heating and cooling decarbonized solution.

• A **fast-growing fleet** of shallow drilling equipment, manufactured in Europe, specifically designed for the shallow geothermal markets



Chantiers réalisés depuis 2022

## **GEOTHERMAL DRILLING** at any depth

SHALLOW GEOTHERMAL ENERGY

Schiltigheim (67)

HeadquartersLogistic base

Offices

Partners

Maisse (91)

O Pau (64)

Drilling and installation of heat probes between 18-200meters deep

200m

AQUIFER GEOTHERMAL ENERGY

2500m **–** 

DEEP GEOTHERMAL RESERVOIRS

5000r

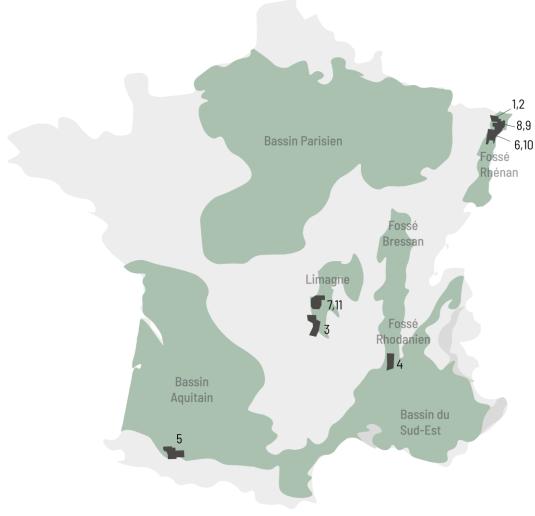
arverne

Drilling and servicing of medium/deep wells from 200meters down to few thousands meters



Source Arverne Group

## Major French licence owner On the ground presence and exploration expertise



Geological bassins, potential or proven geothermal resources in mainland France



Geothermal

Lithium

#### Valid exploration license - owner

- 1 Les Sources (171km<sup>2</sup>) Lithium de France
- 2 Les Sources Alcalines (158km²) Lithium de France
- 3 Cézallier (587 km²) 2gré
- 4 Val de Drôme (487 km²) 2gré
- 5 Pau-Tarbes (442 km²) 2gré
- 6 Strasbourg (573 km²) 2gré
- 7 Riom (495 km²) 2gré
- 8 Les Poteries (151km²) Lithium de France

#### **Submitted** exploration license - owner

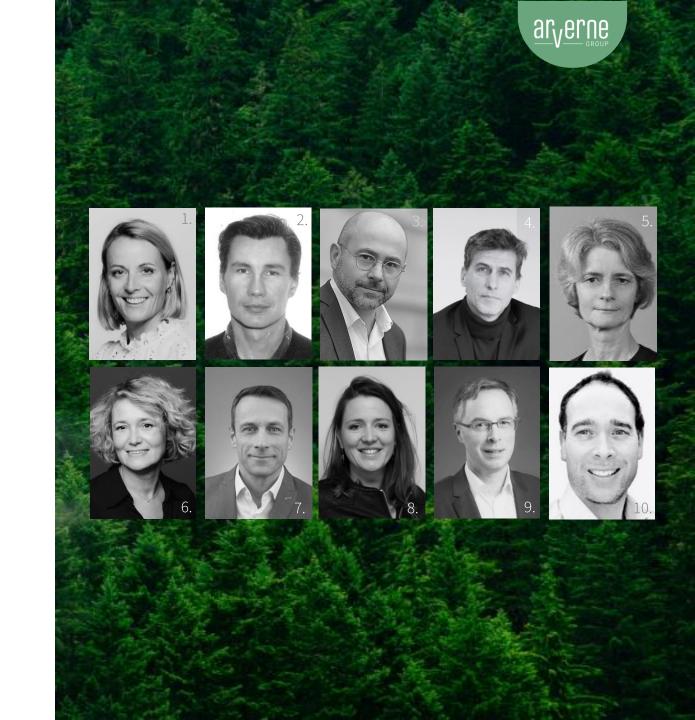
- 9 Les Poteries Minérales (151 km²) Lithium de France
- 0 10 Plaine du Rhin (573 km<sup>2</sup>) 2gré
- O 11 Bassin de Limagne (707 km²) 2gré

#### Source Arverne Group

- Les Sources Alcalines (lithium) is part Les Sources (geothermal) perimeter
- Areas of submitted exploration licenses could be subject to potential changes depending on administrative decisions
- Les Poteries (geothermal) and Les Poteries Minérales (lithium) have the same perimeter
- Strasbourg (geothermal) and Plaine du Rhin (lithium) have the same perimeter
- Riom (geothermal) and Bassin de Limagne (lithium) have the same perimeter

## Managing team High technical expertise and strong experience

- 1. Frédérique Barthélemy Impact & Engagement Director of Arverne Group
- 2. **Damien Bévillon** CEO of 2gré
- 3. Guillaume Borrel CEO of Lithium de France
- 4. Pierre Brossollet CEO & Founder of Arverne Group
- 5. Marianne Daryabegui Head of Investors Relations and M&A, Secretary of the board
- 6. **Frédérique Dosseur** Head of Legal of Arverne Group
- 7. Loic Haslin CEO of Arverne Drilling Services
- 8. **Emeline Othax** Deputy CFO of Arverne Group
- 9. **Sébastien Renaud** Deputy CEO & CFO of Arverne Group
- 10. Guillaume Tarnaud Development Director and acting CEO of DrillHeat



## Governance Board Members

- 1. **Tiphaine Auzière** Independent Board Member
- 2. Pierre Brossollet Chairman
- 3. Xavier Caïtucoli Board Member
- 4. Karine Charbonnier Independent Board Member
- 5. Fabrice Dumonteil Board Observer
- 6. **Jérôme Gouet** Board Member (Renault SAS)
- 7. **Frédéric Houssay** Board Member (Arosco)
- 8. Colette Lewiner Independent Board Member (Cowin)
- 9. **Françoise Malrieu** Independent Board Member
- 10. **Karine Mérère** Board Member (Ademe Invest)





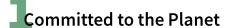
## A purpose-driven company

Sustainability at the heart of Arverne Group's development and strategy

Since **2022**, our purpose is enshrined in our bylaws:

"Through its unique know-how, Arverne group unleashes the potential of geo-resources and sustainably develops them to accelerate an efficient energy transition and the prosperity of territories"

Our commitments will be assessed by an independent third-party organization.



Act as an audacious energy specialist to defend a pragmatic energy transition

- Produce renewable energy and sustainable lithium
- Preserve natural resources
- Reduce our carbon footprint



### Committed to People

Encourage a virtuous society by relying on women and men within the company and territories

- Ensure Health and Safety for everyone
- Promote employees well-being, Diversity and Inclusion
- Create value locally for the territories
- Engage with our communities





Decarbonize Europe heat supply and support local EV battery chain leveraging a strategic drilling capabilities



~€11.2m

2023 backlog (*drilling*) ~€200-350m

2027e Revenues (mostly geothermal)

~€800-1,150m

2030e Revenues (geothermal and lithium)



#### **Drilling**

Key strategic advantage from a proprietary rig fleet

**S DEEP DRILLING RIGS** | by 2030



### **Geothermal energy**

1<sup>st</sup> geothermal production in 2025

**4.8 TWh** by 2030



#### **Geothermal lithium**

Low-carbon lithium for the European EV battery industry

1<sup>st</sup> lithium production in 2027

**~30 kt LCE**<sup>1</sup>/y by 2030

#### Source Arverne Grou

Lithium Carbonate Equivalent









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Entreprise à mission depuis 2022

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