



Press release | October 5th, 2022

45-8 ENERGY ACQUIRES THE GUHLEN PRODUCTION LICENCE IN GERMANY AND INTENDS TO PRODUCE HELIUM AND HYDROGEN!

45-8 ENERGY concluded a deal with CEP (*Central European Petroleum*) in July 2022, to acquire 100% of the "Guhlen" production licence and to become the operator.

The deal is currently subject to approval by the Brandenburg Mining Authority (Landesamt für Bergbau, Geologie und Rohstoffe - LBGR).

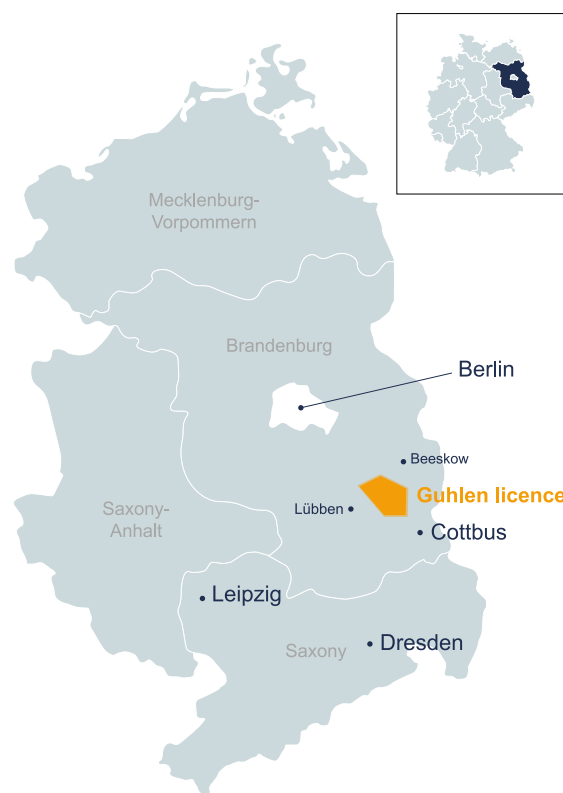
Currently operator of two exploration licences in France, Fonts-Bouillants and Avant-Monts franc-comtois, 45-8 ENERGY continues its expansion in Europe with the acquisition of the Guhlen production licence, located south east of Berlin, in Germany. This licence is holding discovered and prospective helium resources that 45-8 ENERGY intends to develop with local blue hydrogen production.

The Guhlen project is therefore a substantial opportunity for 45-8 ENERGY to supply strategic resources to the high-demand area of the eastern part of Germany, while contributing to the energy and environmental transition. First step for the company in the area, the project will accelerate in parallel the deployment of a regional exploration aiming to unlock the significant helium potential of this geological province.

THE GUHLEN LICENCE

The Guhlen licence covers an area of 330km² in the Brandenburg Land, located 70km south east of Berlin, 100km north of Dresden and 150km northeast from Leipzig.

The licence was initially awarded in 2017 to CEP for 30 years by the regulator (Landesamt für Bergbau, Geologie und Rohstoffe - LBGR). Once the transfer of the licence is approved by the LBGR, it will be valid until 2047.



DISCOVERING STRATEGIC RESOURCES

Drilling and testing conducted by the former operator in 2012, followed by two deviated side-tracks in 2016 and 2018, have proven and delineated a nitrogen-rich gas accumulation associated with helium and a natural gas fraction. 45-8 ENERGY intends therefore to develop an innovative helium and local blue hydrogen production facility.



- **Helium:**

Its extreme rarity on earth and its unique physico-chemical properties make it a highly sought-after resource which is vital for various industries such as electronics, medical, lifting or spatial. Extracting and purifying helium in Guhlen would represent the only helium production in Germany, a local supply opportunity of a strategic resource which is currently 100% imported overseas and subject to regular shortages.



- **Natural gas into local blue hydrogen:**

The limited fraction of natural gas in the field had been so far an economical challenge, seen as an opportunity for innovation by 45-8 ENERGY. As designed now by the company, project considers producing hydrogen onsite through a steam methane reforming (SMR) process. The Guhlen project is therefore a real answer to the hydrogen supply challenges in Europe, contributing to the energy and ecological transition.

The generated associated carbon dioxide will be captured and converted to supply local industries requiring purified CO₂ (breweries, cryogenics, firefighting), another tense market currently importing resource over long distances.



- **Nitrogen:**

The gas mix of the field is largely composed of nitrogen, the most abundant element in the atmosphere, representing 78% of its composition. It does not have therefore significant economic value in that context and can be safely vented into the air.

BEYOND GUHLEN DISCOVERY

The licence area has already revealed the existence of nearby prospective structures in similar and deeper geological formations. 45-8 ENERGY aims to deploy in parallel exploration efforts to secure additional resources for later production in Guhlen, but also replicate such approach in other part of this geological area where high helium concentrations are commonly reported.

If successful, such project represents a real solution to secure a local helium supply for the long-term, and a possibility to meet the needs of highly demanding areas such as the nearby Silicon Saxony.

THE NEXT STEPS

2024 | Drilling and completion of a new well to confirm subsurface model.

2025 | Implementation of a production unit.

2026 | First gas production.

ABOUT 45-8 ENERGY

The founders of 45-8 ENERGY, aware of our planet's environmental challenges, are keen to convert their geological expertise into an eco-committed action: developing the use of the subsurface in support of the ecological transition.

Our helium activities

100% of helium consumed in Western Europe are mainly imported from the United States, Qatar, Algeria and Russia, at great energy cost. 45-8 ENERGY was born out these alarming assessment. With headquarters in France, the company is dedicated to the eco-friendly exploration and production of helium, which is a strategic resource and also essential to the ecological and energy transition. It focusses on short supply chains enabling human size local projects targeting a nearby consumption.

Thanks to an internal methodology and innovative geological approach supported by strong technological innovations, 45-8 ENERGY now holds high potential exploration licences in France, one of which is to enter in production through a first pilot phase end of 2023.

Furthermore, company is developing the first ever mobile helium recycling unit, an innovation aiming to drastically improve helium reusals and limit its atmospheric emissions.

Our natural hydrogen activities

In addition to helium activities, 45-8 ENERGY is also actively exploring natural hydrogen, with a main focus in Europe. Natural hydrogen is produced naturally in the subsurface by natural geological processes, making it a fully decarbonised, limited footprint and cost effective resource.

In many geological contexts, natural hydrogen is associated with helium, hence 45-8 ENERGY's interest in these two strategic resources.



FOR MORE INFORMATION:

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guhlen-project](http://www.458energy.de/guhlen-project)

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