



NATURAL HYDROGEN EXPLORATION IN MOROCCO

Othman SADKI (sadki@onhym.com)

Mustapha CHAIB (chaib@onhym.com)

Nour Eddine BERKAT (berkat@onhym.com)

Réda EN-NABBADI (ennabbadi@onhym.com)

Taha GHADI (ghadi@onhym.com)





Presentation



National Office of Hydrocarbons and Mines

State organization with legal personality, financial autonomy and Governmental control

Established on 2005 by the merger of :

- BRPM (1928)
- & ONAREP (1981)

ONHYM is in charge of research and development of Mines and Hydrocarbons potential of Morocco

ONHYM lunched the renewable energy projects:

- 2012 geothermal
- 2017 Natural H2





Natural H₂ exploration in Morocco

ONHYM puts natural hydrogen as a new lever at the heart of Morocco's the energy transition strategy and also to contribute to the energetic MIX

- In 2017, ONHYM has carried out a preliminary assessment on Moroccan potentialities in natural Hydrogen.
 - This preliminary assessment showed that geologically, natural Hydrogen can exist in Morocco in several areas with high potential
- In 2019, ONHYM has launched a international expertise in the research of natural hydrogen in Morocco









Potential areas and targeting

Criteria

Density and size of geomorphic depressions

Land ownership

Anthropogenic activities

Accessibility

Land use

Access to data on local geology

Distance to industrialised areas



- Largest density of geomorphic depressions
- Accessibility is excellent
- Many groundwater wells and quarries
- Proximity Casablanca, Mohammedia ,Rabat
- Intensive agriculture and human activities

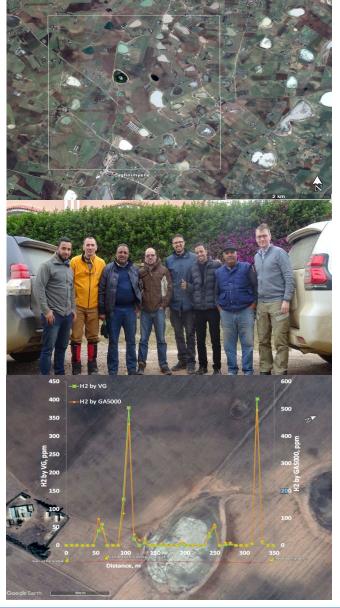
Southern costal Basins

- Large size structures dayas and sebkhas
- Several small depressions
- Accessibility acceptable and no human disturbance.
- Oil exploration boreholes and groundwater wells
- Vegetation scarce ,no flooding problems.
- poorly industrialised.
 - Deep boreholes for potash exploration
 - Some geomorphic structures
 - Geologic conditions well known
 - Accessibilities are very good
 - Investments in industrial development
 - Plans for large potash mine is planned

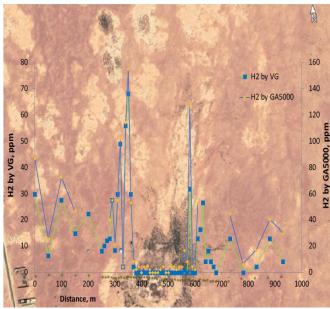
Reguibat Shield

Khemisset Basin

- Several dayas and sebkhas
- Human occupation is scarce
- Aridity of the area
- Accessibilities are poor
- Absence of industry











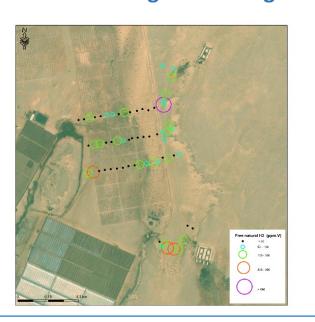
ONHYM Partnerships

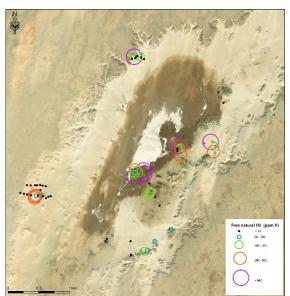
ONHYM continues to develop in partnership all targets highlighted :

In 2020, ONHYM and HYNAT signed Memorandum Of Understanding in order to develop the natural $\rm H_2$ potential in the southern Provinces of Morocco.

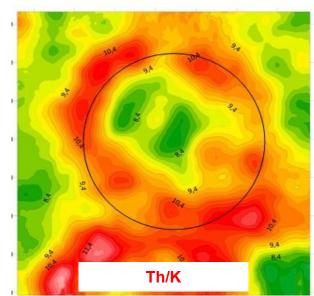
This MOU consist of 3 phases:

- I. Field exploration (2021-2023)
- II. Geophysical works (in progress)
- III. Drilling and testing









THANK YOU FOR YOUR ATTENTION



