Algeria’s Hydrocarbon Potential
General Overview
Algeria- Hydrocarbon Acreage

- Open acreage: 694 000 sqKm (46%)
- Exploration: 365 000 sqKm (23%)
- Prospection: 458 500 sqKm (31%)
Algeria - Hydrocarbon Acreage
The Algerian territory extends over: 2 381 741 km².

Area of the mining domain:
- Offshore: 93 500 km² (6%)
- Onshore: 1 460 000 km²
Algeria - General geological framework
### PETROLEUM PLAYS

**Tertiary**
- Eocene
- Mio-pliocene

**Mesozoic**
- Triassic
- Cretaceous

**Palaeozoic**
- Cambro-ordovician
- Carboniferous
- Devonian
- Silurian (SAG)**
Algeria - Exploration History

First Activity
- 1890’s (Cheliff Basin)

First Commercial Discovery
- 1948 (Oued Gueterini) in North of Algeria.

1950’s
- Extension to the Sahara with the drilling of Bg-1 in 1954
- 1956 : Discovery of the Hassi Messaoud and Hassi R’mel giant fields

1990 - 2000
- Several Oil discoveries mainly in the Berkine basin in the frame of the partnership.

2001 – 2010
- Several gas discoveries (mainly in Illizi and Berkine) and in the western ones (Ahnet, Timimoun, Reggane)

2011-2012 : discoveries in new areas (north of Algeria and Bechar Basin)
Algeria- Future Exploration

• Exploring upside potential around major fields

• Exploring new plays in the North and Offshore

• Maintain exploration Effort for deepest horizons

• Preparing for new plays
  ➢ Stratigraphic / lithologic
  ➢ Structural complexes

• Exploring new the thematics Unconventional Resources

• Maintain exploration effort in the “Frontier Areas”
Exploration Effort for deepest horizons
Exploration Effort for deepest horizons:
Berkine basin Silurian "argilo-gréseux" example.
Exploration Effort for deepest horizons: Example of recent discoveries from the Berkine basin_Silurian “argilo-gréseux”
New plays

- Stratigraphic / lithologic
- Structural complexes
Examples of Stratigraphic subtil traps in the Illizi basin (Ordovician Formation)
New play - Example of Structural complex trapping
Exploring upside potential around major fields
Major fields- Upside exploration Potential
Exploring new plays in the North and Offshore
New plays in the North- Foredeep Basin example
New plays – Offshore Algeria
Detritic sedimentary fill
Evaporitic sequence (Messinian)

- Reservoir:
  - Serravallian-Tortonian turbidites HBB-1 (Porosity: 5-15%).
  - Oligo-Miocene (Numidian Flychs ?) in the extreme eastern part.
  - Lower Pliocene turbidites (Good Porosity);

- Source rocks:
  - Miocene Shales (TOC 1.5%)
  - Serravallian-Tortonian Shales
  - Messinian marls in HBB-1 well.

- Seals:
  - Messinian Evaporitic (Regional seal)
  - Shales and marls (Miocene and Pliocene).
Offshore Algeria - Prospects and Leads

ALG-1
T.D: 1205 m
Tranche d'eau: 99.9 m

ARZ-1
T.D: 1034 m
Tranche d'eau: 127 m

HBB-1
Prof. finale: 4496 m
Tranche d'eau: 923 m

Legend:
- Superficie < 100 km²
- 100km² < Superficie < 200 km²
- 200km² < Superficie < 300 km²
- Superficie > 300 km²
Offshore Algeria- Example of Hydrocarbon traps
( extrapolated from seismic)

An anticline trap within the Miocene interval
(Eastern part)
Offshore Algeria- Example of leads

North

South

Lead 2

Basal limit of Salt

Middle Miocene Horizon

Basement
Exploration effort in the “Frontier Areas”
Exploring Frontier area – Example of the Taoudeni Basin

Plateau du Tanezrouft

Stratigraphy

Erg Echech
Exploring Frontier area - Agadem Basin Example
Discoveries -1986-2013 Period

319 Discoveries:
198 Sonatrach
121 Sonatrach & Partners
Medium Term Exploration program (excluding Shale resources)

Medium term work program targets 9,000 MMTep:

- 6,000 MMTep of Gas
- 3,000 MMTep of Liquids