

## INTERVIEW

### Some New Exploration Agreements Could Be Signed Between Now and the End of 2014,

**Amina Benkhadra, Managing Director of Onhym, tells AOG**

- ▶ Several dozen **wells** have to be drilled to explore a sedimentary basin properly
- ▶ The **partnerships** between **Onhym** and foreign companies represent a formidable brew of human and professional resources
- ▶ Onhym has secured its place in the international oil industry
- ▶ Morocco's **promotion of its hydrocarbon potential** is a continuous process
- ▶ **Shale gas**: the first results are encouraging
- ▶ **Cooperation with sub-Saharan Africa** is a fundamental choice for Morocco

(Following is the text of an interview with Ms. Amina Benkhadra, Managing Director of Morocco's **Office National des Hydrocarbures et des Mines**. The interview took place in Marrakesh on 8 May on the occasion of the *Morocco Oil & Gas Summit 2014*, which was organized by **International Research Networks Ltd.** – IRN – under the auspices of Onhym. See following page for Ms. Benkhadra's biography.)



Photo courtesy : Onhym.

#### Arab Oil & Gas

**(AOG):** *2014 will be a particular important year for hydrocarbon exploration in Morocco, since 27 wells are due to be drilled, which will bring the total number over the 2013-2014 period to 31. Some people are already talking about a test year with good and not so good aspects. As regards the less good ones, people point to the very great disappointment that would be felt in the event that there are no significant positive results this year. Will 2014 really be a test year, and if so, are you fearful about the results obtained?*

■ **Amina Benkhadra:** We do not see things in that light. I am not pessimistic. **Onhym's** objective is to do everything it can to step up exploration activity thanks in particular to the progress of various studies and analyses and to the accumulation of good quality data. The fact that a large number of exploration wells are going to be drilled in 2014 is the result of the sorts of efforts we have been making for years, so it is first and foremost very good news. Of course, exploration carries risks and one cannot guarantee that these operations will be successful. In our job, one has to accept the results and turn towards the future, which is to say to utilize the available data, including those derived from dry wells, to optimize future operations, especially the location of the next wells.

Another point has to be stressed. Twenty-seven wells, that's a big number, but these wells are spread across various basins. This means that, in several of these basins, one or two wells will be drilled this year. But we in the oil industry know that dozens of wells have to be drilled to explore a sedimentary basin properly. 2014 is certainly a very important stage, and one has to welcome it, but it is not the end of the story.

*AOG: The exploration strategy pursued by Morocco and Onhym for several years has resulted in numerous foreign investors being attracted to your country and in exploration activity being stepped up. This strategy has thus generated very positive results, but do you think it needs to be adapted in the light of the experience you have gained in this area?*

■ **A. B.:** Our exploration strategy is based on three pillars: the accumulation of quality data on Morocco's sedimentary basins; an attractive legislative and contractual framework; and a constant effort to promote the country's hydrocarbon potential. We have no reason to alter these three pillars, but the work programs resulting from them naturally have to be adapted. Is the understanding of petroleum systems we have gained on the basis of available data the right one? Do we have to modify some of our interpretations? Do we take sufficient account of visions other than our own? These are examples of questions that we regularly have to ask ourselves over and over again.

Another important dimension is the need to stand back and reposition our national situation in a broader whole. It is important to place ourselves in regional analyses, for example the Atlantic seaboard, to better understand certain aspects of the geology of our subsoil.

## > Amina Benkhadra

**Managing Director of the Office National des Hydrocarbures et des Mines (Onhym)**  
**Former Minister of Energy, Mines, Water and the Environment**

- Currently Managing Director of the **Office National des Hydrocarbures et des Mines (Onhym)**
- Former Minister of Energy, Mines, Water and the Environment
- Former Secretary of State for the Development of the Mining Sector
- Degree in mining civil engineering from the **Ecole Nationale Supérieure des Mines de Nancy** and a doctorate in engineering from the **Ecole Nationale Supérieure des Mines de Paris**. Ms. Benkhadra also completed a management course at the **University of Columbia**.

Ms. Benkhadra's career started in 1982 at the **Bureau de Recherches et de Participations Minières (BRPM – Office of Mining Research and Participations)**, where she occupied several managerial posts concerned with the feasibility of mining projects and the management of a portfolio of over 30 subsidiaries of the former BRPM.

In 1994 she was appointed Director General for Mines at the **Ministry of Energy and Mines**, after which she became Secretary of State for the Development of the Mining Sector (in 1997-1998). In that capacity, Ms. Benkhadra led and oversaw the introduction of a new development strategy for the mining industry.

She became Director of the BRPM in 1998, then Managing Director of the **Office National de Recherches et d'Exploitations Pétrolières (ONAREP – National Office of Oil Exploration and Exploitation)** from August 2000 to November 2003, before being appointed Managing Director of the **Office National des Hydrocarbures et des Mines (Onhym)** on 11 November 2003. She contributed to the revival of the former ONAREP through the adoption of an exploration promotion policy. She oversaw the creation of Onhym (through the merger of the former BRPM and ONAREP). In October 2007 Ms. Benkhadra was appointed Minister of Energy, Mines, Water and the Environment.

### Morocco Oil & Gas Summit 2014

The *Morocco Oil & Gas Summit* that took place in Marrakesh on 7 and 8 May was organized by the British firm **International Research Networks (IRN)** under the auspices of **Onhym**. For further information, go to the following websites: [www.morocco Summit.com](http://www.morocco Summit.com), [www.irn-international.com](http://www.irn-international.com) and [www.onhym.com](http://www.onhym.com)

For other conferences being organized by IRN in 2014, see the postings on our website, [www.stratener.com](http://www.stratener.com), concerning a conference on Libya being held in London on 29-30 May and a conference on Iran taking place in Dubai on 23-25 June.



Photo courtesy of IRN.

**AOG:** *Onhym has considerable experience of **partnerships**, since you have been working for several years with dozens of foreign companies from a large number of countries. What lessons have you learned from this experience?*

■ **A. B.:** I should like to point out that entering into such a large number of partnerships implies a great ability to work with very diverse organizations and people and a spirit of tolerance and openness that is inherent in Morocco. For us, partnerships afford an excellent outreach to the outside world, on the one hand, and a formidable brew of human and professional resources, on the other. Through technical committees, our staff are confronted with other visions and other experiences, which leads us to question our ideas and our perspectives. The demands of our partners in the area of companies' social responsibility also contribute to making us evolve in terms of governance. This concentration of different nationalities with one and the same goal, namely the discovery of hydrocarbons, results in very

valuable exchanges at the scientific and technical level, and these are win-win exchanges. We learn from our partners and they acquire precious knowledge about Morocco's geology and hydrocarbon potential.

We were able to achieve this level of cooperation by being very present alongside our partners over the long term and very reactive. Even though we are not producers at the moment, our ideas are discussed in numerous forums and conferences and we have secured our place in the international oil industry. We have succeeded in attracting into Morocco companies belonging to the main segments of this industry – the majors, the large independents, and small and medium-sized independents.

Of course, there may be some problems, and sometimes it has happened that one of our partners has not been as rigorous as we are in terms of communications, which may have resulted in the media confusing resources and reserves, for example. We have thus strengthened our demands in terms of communication. But these problems are very rare.

*AOG: There are 31 oil agreements (exploration contracts) in force in Morocco at the moment, as well as five reconnaissance agreements (which do not require any wells to be drilled). That is already a large number, but do you think there is still room for increasing it in the future?*

■ **A. B.:** Our onshore and offshore sedimentary basins have a total area of more than 900,000 sq km, and the agreements in force cover around 400,000 sq km. I think, therefore, that there is still scope for a possible increase. Furthermore, we have discussions underway with foreign companies for several zones and they are well advanced. For both these reasons, I am reasonably optimistic. But one must not forget that the number of agreements in force can decline as a result of decisions taken by the operators concerned to relinquish their licenses in light of the results of their work programs and after fulfilling all their contractual commitments.

*AOG: Will more oil agreements be concluded in 2014?*

■ **A. B.:** Two have already been signed this year with **Repsol** in March for the **Gharb Offshore Sud** block and with **Gulfsands Petroleum** in April for the onshore **Moulay Bouchta** acreage. In addition, a reconnaissance agreement was concluded in March with **Chariot Oil and Gas**, assigning it the **Mohammedia Offshore** block. Some other oil agreements could still be signed between now and the end of 2014. In any event, we are continuing our promotional work. That is a continuous process.

*AOG: How many agreements could be signed between now and the end of 2014?*

■ **A. B.:** One cannot prejudge the outcome and duration of negotiations and so one has to remain very cautious. But two or three additional signings are possible.

*AOG: : In his speech during the Morocco Oil & Gas Summit 2014, the Minister of Energy, Mines, Water and the Environment, Mr. Abdelkader Amara, referred to possible measures for increasing Morocco's attractiveness still further. What role could Onhym play in that regard?*

■ **A. B.:** Onhym's mission is to promote Morocco's hydrocarbon potential, and all our resources are devoted to that effort. We accompany our partners and we intervene with the state agencies concerned to get potential obstacles lifted or certain processes speeded up. There are always improvements to be made in terms of the time taken to grant certain administrative

authorizations – the allocation of land, for instance – and we remain very open to all suggestions in this respect.

**AOG:** *In the course of the Summit in Marrakesh, it was disclosed that recent seismic surveys had identified some **very interesting prospects** and that **viable petroleum systems** with good hydrocarbon potential existed in Morocco. Which are the areas and what are the play concepts that are particularly concerned?*

■ **A. B.:** The **Gharb** and **Meskala** areas and the **Atlantic offshore** from Tangier as far as Lagouira are particularly interesting. As regards the play concepts, there is a wide range. It may go from the Paleozoic to more recent plays. We have play concepts associated with the tectonic salt layer in the north of the country and others linked to the delta system. We are beginning to be interested in ultra-deep zones on the Atlantic margin. Another important play is onshore biogenic gas in the north. We are also looking closely at plays ranging from the Paleozoic to the Jurassic in the center and south of Morocco. This list is not exhaustive.

**AOG:** *Should some of these prospects be targeted in particular or is the battle being waged on all these fronts?*

■ **A. B.:** These plays are very diverse and our partners' centers of interest and experience are also very diversified. We are thus necessarily operating on several fronts at once.

**AOG:** *Morocco's **oil shale** potential has been known for a long time and no one doubts that it is huge. But over and above this potential, one does not have the impression that there has been much tangible progress in this area.*

■ **A. B.:** Since the end of 2005 we have pursued a strategy based on partnerships, and several companies, including some leading ones like **Royal Dutch Shell**, **Total** and **Petrobras**, have studied our potential. That has enabled us to acquire additional information. More recent partnerships with **Taq** (of the United Arab Emirates), **San Leon Energy** and **Zonatec**, have contributed to extending the field of technical options with the exploration of processes such as those of the Estonian company **Enefit**. The next stage could be to build a national team on the issue of oil shale around Onhym, together with other companies and universities, to pool our knowhow and resources and try to develop technical processes in this key area.

**AOG:** *Still on the subject of unconventional hydrocarbons, Onhym has reported interesting preliminary results with **shale gas**.*

■ **A. B.:** That is very recent, since our work in this area dates back only two years. We began with geochemical and petrophysical studies and analyses of the richness of source rock. The first results are encouraging.

**AOG:** *The Energy Ministry and Onhym emphasize **cooperation with sub-Saharan Africa**, especially following the visit of King Mohamed VI to Mali, Ivory Coast, Guinea Conakry and Gabon in February. The talk is of a strategic choice to be made by Morocco. What is the situation as regards the energy sector?*

■ **A. B.:** It is effectively a fundamental policy choice for Morocco initiated by His Majesty Mohamed VI. We want to strengthen South-South cooperation in a spirit of shared solidarity and reciprocal exchanges. Morocco's experience is recognized and appreciated in various

sectors, especially access to energy and rural electrification, and the **Office National de l'Electricité et de l'Eau Potable** (ONEE) has been approached by several African countries. We have a good capability for conceiving and executing projects, as shown by our solar and wind energy plans. Morocco can also offer its skills in the area of network stability in towns and the development of hydroelectricity, not forgetting the training area. We have energy interconnections with other countries in North Africa and with Europe, but we also want to strengthen and develop interconnections to the south.

As far as hydrocarbons are concerned, Morocco and several sub-Saharan African countries intend to share their geological knowledge in their common interest. As I explained just now, it is important to place what we know about the geology of Morocco in a wider context. In the case of our Atlantic margin, regional analyses are extremely useful.

*AOG: In this cooperation with sub-Saharan Africa, the countries visited by King Mohammed VI – Mali, Ivory Coast, Guinea Conakry and Gabon – should be the priority [Editor's note: Onhym has just signed a memorandum of understanding with Mali's Minister of Mines and the Managing Director of the Malian Authority for the Promotion of Oil Exploration]. Are there other countries that could occupy an important place in this cooperation?*

■ **A. B.:** Our cooperation with **Mauritania** and **Senegal** is also liable to be strengthened. We signed a cooperation agreement with **Petrosen** [the **Société des Pétroles du Sénégal**] during the conference and remain open to proposals for cooperation with several other African countries.

*AOG: Isn't your cooperation with the other countries of North Africa rather marking time?*

■ **A. B.:** A lot has been done in the past with **Tunisia** and **Algeria** (the **Maghreb-Europe** gasoline, the strengthening of power interconnections) and joint projects were planned with **Libya**, but the Arab Spring unleashed in 2011 and the civil war in Libya put a break on the progress of these initiatives.

We are continuing to work together and our countries are condemned to advance along this path. It is in the common interests of the peoples in this region and I hope we all share this conviction. There is effectively a lot of effort to be put in to improve the current situation. The **Arab Maghreb Union** is clearly not equal to the ambitions it announced when it was created.

Morocco is an Arab, African and Moslem country. This triple nature enables us to encourage numerous types of cooperation. And we do not want to limit ourselves to bilateral cooperation arrangements between African countries. We are well placed to promote trilateral cooperation between, for example, the **United States** or the **European Union**, a southern country and Morocco.

