



**Defence Academy**  
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# Special Series

**Sonatrach: An International Giant in the Making**  
**Dr Mohammed El-Katiri**



# Sonatrach: An International Giant in the Making

Dr. Mohammed El-Katiri

## Key Findings

- The Algerian national oil company, Sonatrach, is emerging as a major supplier of conventional and alternative energy resources to Europe.
- Algeria, through its solar resources, constitutes a key piece of the European efforts to tackle the climate change challenges. Algeria has the potential to be a major supplier of electricity generated from solar energy.
- Algeria's civil nuclear plans show that nuclear reactors are not only a solution for countries with no fossil fuels resources, but also for countries with abundant hydrocarbon reserves, and potential renewable energy generation options. Algeria's motivations are to save its natural energy resources and to keep them only for exports.
- The EU's and NATO's efforts to offset the offensive Russian energy diplomacy of the last few years are strengthened with the Algerian investments to consolidate and raise its exports of natural gas.
- The exceptional hydrocarbon returns of recent years have allowed Algeria to start an ambitious economic diversification process that aims to consolidate and stabilise its economic growth in the future. Algeria pursues economic strategies that first seek to reduce the effects of the hydrocarbon price fluctuations in the international markets, and, secondly, aims to create more jobs for its growing and youth dominated population.

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Dr Mohammed El-Katiri

“On no one quality, on no one process, on no one country, on no one route, and no one field we must be dependent. Safety and certainty in oil lie in variety and variety alone.” Winston Churchill’s thoughts on oil<sup>1</sup>

## Introduction

The increased global demand for limited natural resources has had a profound impact on the conventional scene that has characterised the global business of oil and natural gas industries for the last decades. In a world characterised mainly by a race among developed and emerging economies to secure energy commodities, important producing countries are going to play an important role, at regional if not on global level.

Furthermore, the recent Russian-Ukrainian incidents have demonstrated the vulnerability of Europe’s energy security, and its dependence on Russia’s energy exports. The dispute has revived the discussion on energy security in the European Union member countries, and pushed them also to diversify energy supplies away from Russia. In this context, Europe has no other realistic options, for the medium and short run, than fostering its alliances with countries rich in energy resources like Algeria. Russia’s gas supply cuts are also a factor contributing to the rising importance of Algeria as a strategic partner. Despite its limited scope to replace Russia’s share in the European market, Algeria is working towards increasing and diversifying its energy exports. These changes in the international energy market imply multiple challenges, mainly to the developed importing countries and their international oil companies. Energy-importing countries are faced with big issues related to energy security.

This article does not aim to discuss challenges of securing energy to the importing economies in developed and emerging economies. Rather, it is aimed to shed light on the experience and process of building a state-owned hydrocarbon company with international presence. The concern of this article is to provide an insight into one of the emerging global energy companies, the Algerian Sonatrach. Algeria is wisely investing the financial returns of its hydrocarbon exports in consolidating and diversifying its economy. Sonatrach is a model for many African national oil companies. In addition to its experience in the energy business, Algeria is holds the second largest proven reserves of natural gas in Africa. Since natural gas constitutes most of the business activity of Sonatrach and of its production, this article will focus on Sonatrach as a natural gas producer, exploring its strategies to exploit and export its gas output. Any observer of Sonatrach’s activities will witness a shift in the nature of its actions. Some of the changes are non-conflictive, and some other ones have raised disputes with their partners either within Algeria or at international level.

In this paper we will first draw up the main concept and motives which shape Sonatrach’s strategy and actions. The article highlights the role of hydrocarbon revenues in correcting some of the macro-economic indicators of Algeria. It also focuses on a reform process that was launched by Sonatrach which seeks to modernise the way the company runs itself, and

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<sup>1</sup> Ronald W Ferrier and James H Bamberg, *The History of the British Petroleum Company: the Developing Years, 1901-1932 (Volume 1)*, London: Cambridge University Press, 2000: 182.

to expand its activities to encompass upstream and downstream sectors. Furthermore, the fundamental elements that determine Algerian decision makers' strategies with their energy policy will be discussed. The aim is to equip the reader with the tools to understand the motivations, assumptions, and ways and means of the Sonatrach's development plans strategies, and Algerian energy strategy, and to analyse future actions of Sonatrach and the Algerian energy policy makers.

## **A New Era for the Energy Business**

Energy and global energy security and relations have returned to the political agenda of most governments around the world. The international energy market is undergoing an unprecedented, profound transformation process. The fundamentals and dynamics of the global energy market are changing. It is an era characterised by an increased global demand for energy, with natural resources further diminishing. Driving forces behind these changes are also, by and large, the roles of emerging National Oil Companies (NOCs) in the global market.

Until very recently, hydrocarbon exploration on an international scale was a domain of a few large international oil companies. Nowadays, there is a shift of policy, characterised by the involvement of the NOCs in the exploration, production, refining, liquefaction, re-gasification, and transport of their national hydrocarbon resources. These NOCs are assuming the status of integrated energy companies. There is thus a shift from national ownership of resources and their extraction, production and marketing through International Oil Companies (IOCs) to full control of NOCs. NOCs can also be owned by governments whose states do not possess hydrocarbon resources in their territories. In this case, the NOCs are tools to ensure oil and gas supplies to their fast growing economies through investments abroad, as in the case of China and India.

State oil companies are dominating the global energy markets. They control three quarters of the world's hydrocarbon reserves. Many of the NOCs are now among the 50 largest oil companies in the world, a worrying trend from the view of industrialised and developed economies as well as European and American oil companies. This constitutes a challenge to the IOCs known as the seven sisters,<sup>2</sup> and importing markets alike. The new era has removed the production-sharing agreements from cooperation between the NOCs and IOCs. It seems that even the leading IOCs have no option other than accepting the new reality. Tony Hayward, the Chief Executive of BP, stated in realistic terms during the World Petroleum Congress held in 2008 in Madrid that this was the time to develop new forms of contractual relationships that move beyond the historical model that requires the ownership of reserves and production.<sup>3</sup> NOCs like Sonatrach have the financial means, access to know-how and technology to develop new business models for their hydrocarbons.

Algeria is in the heart of this transformational trend. Sonatrach now is different from its early times in 1963 when the country had only just acquired independence, when it had neither trained human capital as management and technicians, nor enough equity to invest and exploit its own resources. The Algerian government and Sonatrach have learnt from the mistakes of the past and are now working to consolidate the hydrocarbon sector, a sector that has always been the backbone of the Algerian economy since its independence. In addition to the economic dimension, these hydrocarbon commodities are lending enormous power and weight to Algeria in the international political arena. Having said that, however, it

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<sup>2</sup> These companies are either owned privately or by governments with little or no hydrocarbon resources.

<sup>3</sup> Tony Hayward's speech at World Petroleum Congress, Madrid:  
<http://www.bp.com/genericarticle.do?categoryId=98&contentId=7045867> (accessed March 2009)

is important to note that the economic aspect is dominating any other dimension, at least for now.

## The Hydrocarbon Sector in Algeria

Algeria is blessed with important hydrocarbon endowments. Oil and gas production in Algeria goes back to 1956, during the French colonial rule. Algeria is today a major producer and exporter of hydrocarbons with significant proven reserves of natural gas and to some extent crude oil; it holds more natural gas than oil. In 2007, Algeria was ranked the world's third largest natural gas producer, and the tenth largest oil producer. Latest data from BP show that Algerian proven reserves of oil are currently at 12.3 billion barrels, positioning the country as the world's fourteenth largest proven reserves.<sup>4</sup>

According to the Energy Information Administration, Algeria possessed an estimated 159 trillion cubic feet (tcf) of proven natural gas reserves as of January 2008, making it the holder of the tenth largest reserves in the world.<sup>5</sup> Its production amounted to 83 billion cubic meters in 2007, positioning the country as the sixth largest producer in the world. The country's largest field is Hassi Rmel, discovered in 1956 and holding 85 tcf, more than half of Algeria's proven gas reserves. Natural gas has become the fuel of choice around the world because of its environmental advantages over other fossil fuels.

Algeria is one of the founding members of OPEC and the Gas Exporting Countries Forum. The forum was founded in 2001 with the ambition of becoming an organisation that controls prices and output of its member countries, similar to what OPEC does for the crude oil. With 15 full members and Norway as an observer, the forum accounts for three quarters of the world reserves and 41% of production.

The management of the Algerian hydrocarbon wealth rests with the Ministry of Energy and Mines, but the executing body is the national oil company Sonatrach, which was established in 1963 just after independence. Sonatrach produces 60% of Algerian oil and 90% of its natural gas. It is not the sole player, but the main player. It is responsible for the management of the country's oil industry, which encompasses the organisation of exploration, production, transport, refining, processing, marketing and distribution of oil, gas and related products.

Until a few years ago, Sonatrach had also played a role as a regulatory body, managing the exploration bidding rounds for oil and gas. The company negotiated licences and contracts with foreign companies as an arm of the government, but also acted as a normal commercial entity. There was great potential for a conflict of interests. Nowadays, this regulatory role is performed by the newly established regulatory agency Alnaft, created by the New Hydrocarbon Law.

To describe Sonatrach of today from a legal perspective, it is a commercial entity that has the government as a sole shareholder. A few years ago, Sonatrach was legally restructured to be able to meet international benchmarks of efficiency and good management. The restructuring will allow the company to attract talent and possess flexibility to manage and compete.

Due to its geographic proximity, Europe is and will continue to be Sonatrach's biggest customer for the foreseeable future. In 2007, Algeria exported 55bn cubic metres to Europe, 19.1% of the EU's imports, and it places Algeria as the third main supplier to the European continent just behind the Russian Gazprom and the Norwegian Statoil. A number of south

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<sup>4</sup> BP Statistical Review of World Energy, June 2008

<sup>5</sup> Energy Information Administration, *International Energy Outlook:2008*: 44

European countries are more dependent on Algeria. Sonatrach is the main supplier of Spain, France, Greece, Portugal and Italy through its two main cross-border pipelines. One is in the west and links Algeria and Spain via Morocco. The second pipeline is in the east, which links Algeria with Italy via Tunisia.

The potential of Algeria to supply other European countries is huge. The recent conflict between Georgia and Russia has pushed several European countries to seriously seek for non-Russian suppliers of gas. The German Chancellor, Angela Merkel, in a recent visit to Algeria showed interest in establishing a partnership to import gas from Algeria. During that visit, the Algerians referred to their LNG (liquefied natural gas) exports as a way to help German energy diversification plans.<sup>6</sup> This in a way explains the firm position of Merkel towards the Europeanisation of the Mediterranean Union initiative, to include all the European Union countries and the other Mediterranean partners, instead of the Mediterranean European countries and other Mediterranean partners as was proposed by French President Sarkozy. The UK is another European market to which Sonatrach exports natural gas in the form of LNG.

The importance of Algeria is not limited to its status as a resource holder, but also as a transit territory, a land that acts as a bridge between other African energy-producers and Europe. The best example is the Trans-Saharan pipeline project, which when completed will link Nigeria with Algeria and then join the existing Algerian pipeline infrastructure that transports natural gas to the northern basin of the Mediterranean sea. Algeria has an extensive domestic oil and natural gas pipeline system. The importance of the project for Europe is due to the ranking of Nigeria as the seventh largest natural gas holder in the world. The Algerian government is keen to support the realisation of the project.

The Algerian policymakers seize any opportunity to advocate the importance of the project to their European partners. This comes as no surprise if one knows that in addition to the high transit fee, Algeria will obviously gain more negotiation power vis-à-vis the European Union as it is going to be handling even greater amounts of natural gas. On the European front, the EU seems also keen to finance this strategic project for its energy security. In the aftermath of the last Russian-Ukrainian gas dispute, the EU has decided to accelerate its commitment to the project. Another reason is to stop the ambitions of the Russian energy company Gazprom to finance and get involved in the project. A feasibility study for this 4,128 km pipeline was completed in 2008, which estimated the costs of the project at around €15bn.

## **The Dominance of Hydrocarbons in the Algerian Economy**

It is almost impossible to discuss the Algerian economy without focusing on Sonatrach, which is always associated with the Algerian state budget and economy. The hydrocarbon sector clearly dominates the economy. Algeria is largely dependent on hydrocarbon wealth, and the rise of the price of these commodities over the past five years at least, has helped to boost the Algerian economy. The government derives most of its revenues from the sale of hydrocarbon products. Algeria's economy will follow oil and gas prices. Low oil prices are not desirable for Algeria's government at all. After years of economic difficulties, it seems that now the pendulum is in the right direction for Algeria. The hydrocarbon revenues reached US\$59.61bn in 2007, registering an increase of 11.2% compared to the previous year, and positioning Algeria as the richest country in the Maghreb region. Amid strong fluctuations of oil and gas prices in 2008, Algerian officials were confident that the revenues for 2009 would reach US\$80 bn.<sup>7</sup>

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<sup>6</sup> "Germany seeks Algeria Gas Partnership" *North Africa Times*, No. 37, 1 August 2008.

<sup>7</sup> "Chakib Khelil, ministre de l'Énergie, dresse le constat," *Liberté*, 13 October 2008. <http://www.liberte-algerie.com/> (accessed March 2009)

The hydrocarbon sector plays a key role in the Algerian economy at different levels. It contributes about 70% of the budget revenues. The income from hydrocarbon exports is around 98% of export earnings. The share of gas and oil in GDP stood at about 45% in 2007 compared to 38% in 2004. Real GDP growth stood at 4.8% in 2007; projections by the International Monetary Fund (IMF) indicate that GDP growth in Algeria for 2008 was around 4.9%, when oil prices registered historical records, reaching US\$147 per barrel.

The IMF noted that the country's medium-term outlook remains bright. The high petrodollar inflows combined with increasing activities in non-hydrocarbon sectors will allow a strong economic growth of real GDP of nearly 5%.<sup>8</sup> Another key factor that supports such optimism is the vast surpluses and liquidity accumulated over past years. Figures from the Bank of Algeria show that foreign exchange reserves reached a new record level of US\$135 bn at the end of October 2008.<sup>9</sup> These vast savings will assure public investments for years to come.

The single most important contribution of the petrodollar bonanza in the Algerian economy is its aid to improve the external position of Algeria. The high hydrocarbon earnings helped the Algerian government to pay back the majority of its external public debt. Since 2004, the government decided to make repayments ahead of schedule to the majority of its main foreign creditors. With rapid growth and the repayments that have been made so far, the external debt-to-GDP ratio could be lowered to less than 3% at end of the 2008 from the 34% that had been registered in 2003.<sup>10</sup> In June 2008, the external debt was reduced to US\$4bn from US\$25bn in 1994.

Hydrocarbon resources also play an important role for the flows of foreign direct investment into Algeria. At current high oil prices and increasing global demand, it is likely that the country will receive more investment in exploration activities. The promotion of energy intensive industries will make hydrocarbon resources play an ever more important part in the Algerian economy.

Record-high oil prices have also increased the assets of the Oil Stabilization Fund (*fonds de regulation de recettes*), a fund that was set up by the Algerian government in 2000 with the main goal of insulating the budget and economy from the fluctuation of hydrocarbon prices. It aims to secure the stability of development projects in the medium term, and also works as an inflation stabiliser. The governor of the Bank of Algeria, Mohammed Laksaci, revealed that savings within the fund had reached US\$57.8bn by the end of 2008.<sup>11</sup> The financial resources of the fund are any revenues above the "modest" projected oil price per barrel set in the national budget, i.e. the difference between the modest oil price assumption set in the budget and real prices in the market. For instance, the 2007 budget set a price of US\$19 per barrel while the price of oil stayed almost the whole year above the US\$100 level. For the 2009 budget, the price was set at US\$37 per barrel. As with many other sovereign funds, returns on invested funds also constitute a source of income. The fund has also enabled the Algerian government to pay back its foreign public debt. Money flows into or from the fund are not revealed.<sup>12</sup>

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<sup>8</sup> International Monetary fund, *Algeria: 2007 Article IV Consultation, Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Algeria*, 21 December 2007: 5

<sup>9</sup> "IMF Executive Board Conclude 2008 Article IV Consultation with Algeria", International Monetary Fund Public Information Notice No. 09/25, 27 February 2008

<sup>10</sup> Organisation for Economic Cooperation and Development, *African Economic Outlook - 2008*: 113

<sup>11</sup> "Financial system developments in Algeria - resilience and risks in the face of the international financial crisis and its spillover effects". Speech by Dr Mohammed Laksaci, Governor of the Bank of Algeria, at a meeting with the Algerian Bankers Association, Algiers, 22 January 2009, <http://www.bis.org/review/r090224c.pdf> (accessed March 2009)

<sup>12</sup> Valerie Marcel and John V. Mitchell, *Oil Titans: National Oil Companies in the Middle East*, Brookings Institution Press, 2006: 243



The current global financial and economic situation is a good example of the benefits of such funds for the economic stability and development of commodity-exporting countries. Despite the global turmoil, the large savings from the last oil windfall are enabling the Algerian government to proceed with its mega-projects. The savings give the country an opportunity to smooth the impact of the global recession on the Algerian economy. Officials have kept reiterating their commitment to continued spending.<sup>13</sup> What all these tell us is that Algeria has learnt from past mistakes. The policy-makers dealt in a prudent manner with their surpluses and the way they invested them, which gave ammunition to the Algerian economy to face at least a cyclical crisis.

In addition to the above financial and macroeconomic contributions, the hydrocarbon earnings play a key role in the economic development and the promotion of non-hydrocarbon economic activities. The abundance of revenues has allowed the government to dedicate US\$60 bn for the Growth Consolidation Plan for a period of four years. The aim is to tender the infrastructure and public sector services projects (irrigation and water desalination, housing, and health) to foreign companies. The healthy financial situation has allowed the Algerian government to upgrade the country's infrastructure. Algeria is, as many other petroleum-based economies, continuing its efforts to diversify its economy beyond the oil and gas industries. An economy which is not only based on the hydrocarbon sector will help the country to secure employment and a stable economy, which are sources of major concern to policymakers in Algiers.

GDP growth and other sound macroeconomic indicators do not tell the whole story. On top of the macro boom, there is unemployment that is one of the main challenges that the Algerian government faces, especially among the urban youth. High population growth coupled with low rates of economic diversification and growth have resulted in very high unemployment rates. Figures from the National Centre of Information and Statistics show the unemployment rate reached 13.8% in 2007. The rate is very high compared to other countries in the region, but for the officials it is an achievement compared to the 30% rate that was registered in 2000.<sup>14</sup> It is important to note that the official number of registered unemployed does not paint an accurate full picture of the overall scale of unemployment, since the official statistics do not include those who are not registered. Tackling the issue of unemployment is much needed since it would contribute to enhancing political stability in a country that has not enjoyed peaceful times since the start of a civil war in the early 1990s.

With all this in mind, it is clear what a great contribution the hydrocarbon sector and Sonatrach make to the Algerian economy. But Sonatrach is involved in a business which fluctuates rapidly and constantly. This explains why the change of the way Sonatrach works is of paramount importance. The aim behind the restructuring of Sonatrach has been to ensure economic stability for the country, through the achievement of a sustainable income that allows stable growth.

## **The Restructuring of Sonatrach**

### **A Favourable International Conjuncture**

At the turn of the century, the Algerian company launched a process of restructuring that affected its business lines and geographic activities. The company was very fortunate to adapt to the global economy's new realities. There were new forces at play that led to the consolidation of Sonatrach's efforts and its choices. The restructuring was also driven by a desire to overcome the threat brought by non-OPEC newcomers to the oil production

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<sup>13</sup> "Karim Djoudi Reitere ses Assurances" *Elwatan*, 12 October 2008. <http://www.alwatan.com>

<sup>14</sup> Kangni Kpodar, "Why Has Unemployment in Algeria Been Higher than in MENA and Transition Countries?" IMF Working Papers, WP/07/210

industry, and raising competition in the natural gas market. This has encouraged Sonatrach to increase its downstream presence and embark on an aggressive internationalisation programme. Until very recently, the majority of producing countries, including Algeria, were not in direct control of final product markets. These used to be managed and controlled by major international oil companies. Sonatrach's move will allow by and large control of the prices of the final products and establish what resource holding countries call a fair price for their commodities.

The emergence of Sonatrach as one of the main players in the global energy market has flourished in a very favourable international environment. The turning point came with the increase of the importance of natural gas in the energy mix of the majority of importing countries. The demand for natural gas has increased following the oil price shock of the 1970s. The rising concerns about the depletion of oil reserves have led the market players to look for new energy sources. Being the cleanest of the fossil fuels has increased its popularity in many developing, consuming countries. In this sense, the shift towards more use of natural gas was reasonable. By the late 1990s the idea of a potential lack of any future for natural gas that had been adopted by major oil players was abandoned. Natural gas is not any more considered an expensive commodity to transport. Three decades ago Algerian officials and Sonatrach managers used to tour the world explaining the importance of the market for natural gas.<sup>15</sup> They were encouraging investment into the sector. Now there is no need for such efforts.

Another aspect of this new market environment is the unprecedented jump in hydrocarbon prices. High oil and gas prices provided Algeria's hydrocarbon company financial resources sufficient to fund some of its large-scale development projects. Sonatrach reduced the involvement of foreign partners, because its own resources were now sufficient to finance many of its projects. Moreover, the international expansion of Sonatrach came at a time characterised by the emergence of new giant economies with very limited natural resources. This has not only led to increased demand for the different energy products but also offered opportunities to companies like Sonatrach to develop their own relations. Before this new era, the majority of OECD consuming countries had their own companies that controlled the distribution in these economies and around the world.

## **The Restructuring Process**

The restructuring of Sonatrach did not happen overnight; it was more of a process than an event. It was only at the end of the 1990s that Sonatrach embarked on an unprecedented institutional reform, to create a commercially oriented structure. The process of preparing a strategic vision of growth and transformation for Sonatrach took more than a decade. The shock of the 1986 sudden drop in international oil prices, and its effects on Algeria's economy, had provided the impetus to Algerian policymakers to plan for sustainable growth for their economy in a way that defied volatile oil prices. The 1980s shock changed the strategy of the Algerian government, away from a short-term horizon that aims at merely meeting the current year's budget requirements, to long-term development. Algerian policymakers have learnt from the crisis, and have become mindful of the importance of stable energy revenues.

The first step towards this transformation was the improvement of the skills levels involved in the operation of Sonatrach; training, enhanced and updated knowhow were prioritised in the company's employment. Remuneration and reward schemes were aimed at attracting and retaining higher-skilled labour, and highly-skilled technocrats employed at strategic positions within the company. Only then was the official multi-faceted transformation plan launched.

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<sup>15</sup> Nordine Ait-Laoussine "Developments in Natural Gas Industry of Algeria", OPEC Review, Vol. 3, Issue 2, June 1979: 1-18

Sonatrach, furthermore, established its own educational arm, including the Algerian Petroleum Institute, in order to meet its recruitment policy demands, by forming world-class engineers and technicians for hydrocarbon fields, refineries and other plants. Earlier attempts to reform the company had been hampered by severe opposition from different groups within Sonatrach and their allies in the Algerian political system. Any form of change always carries a risk of harming established patronage networks and dependency relations within the system in Algeria. Now, however, the importance of a functioning energy company, in the face of volatile but for the state essential energy revenues, outweighed political considerations.

The second step to reform Sonatrach involved the regulatory framework in Algeria, a pivotal step to adapt the company's workings to the new realities of international markets, and to make the company internationally competitive. The year 2005 witnessed the coming into force of a new hydrocarbon law, which strengthened the stake of Sonatrach in all upstream investments, by requiring its control of at least 51% in all new projects. In October 2006, the Algerian parliament passed an amendment to the 2005 Hydrocarbon Law, introducing a tax on windfall profits of energy companies.

Under the set of new regulations, progressive tax rates from 5 to 50% are now applied when the price of Brent oil passes the level of US\$30 per barrel. The windfall profit tax aims to increase the benefits of the state from soaring energy prices on the international markets, by increasing its tax revenues. This also brings in some balance to the long-term contracts signed with international energy companies, sometimes at a price of US\$15 per barrel. This tax amendment has generated an enormous debate. What was seen by the Algerian government as a fair deal, obviously, was not well received by international companies, especially knowing that the new tax has been applied with retroactive effect. The general perception was that the law was a signal of the return to resource nationalism in Algeria, at a time when nationalisation was just about to return as a trend in other resource-rich countries. What Algeria did, however, was different from what Venezuela and other South American countries did. It is true that Algeria strengthened the position of Sonatrach in the hydrocarbon sector, but not in a retrospective way. Previous investments made by foreign companies stayed under the same arrangement. Some Algerian sources were surprised about the reactions in certain circles in the Western world vis-à-vis the introduction of the new regulations, especially by those countries that had themselves been conservative in opening up certain sectors of their own economies to foreign investors. The same sources criticised the general negative attitude in Europe and the US towards Sovereign Wealth Funds.

A third fundamental step in restructuring Sonatrach and Algeria's energy sector at large was the institutional restructuring of the entire sector, i.e. both of Sonatrach itself and other complementary institutions. These efforts also aimed at creating other institutional structures that were necessary to modernise the sector and prepare Sonatrach to focus on commercial activities in order to become an international player. The government thus created an important new central agency, the National Agency for the Development of Hydrocarbon Resources (Alnaft). It was created in 2005 by Act No. 05-07, and aimed, among other things, to set benchmark prices for natural gas on a monthly basis. The natural gas contracts signed by Sonatrach and the Algerian Ministry of Energy and Mining are mainly long-term contracts with price clauses referring to the crude oil price at named ports or regions. Alnaft is contributing to the transparency and good governance in the sector. With its role, the Algerian government plans that Alnaft will contribute to more efficiency, and to reduce the high costs of disputes that Sonatrach has incurred over years with its own partners.<sup>16</sup> After

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<sup>16</sup> A recent example of such disputes is the case with the Spanish firm Gas Natural, where Sonatrach decided to increase the prices by 20% on top of what was originally agreed in the contract signed in 1995. For more information see: "Spanish Gas Groups Fear Reliance on Algeria", *Financial Times*, 12 May 2008.

the establishment of Alnaft, the clauses dealing with prices in all contracts have changed. The price determination during the life-time of the contract will be allocated or referred to a list of prices maintained by Alnaft.

## Investment Strategy and the Internationalisation of Sonatrach

The recent surge of global oil prices has allowed Sonatrach to embark on an ambitious plan of investments that intends, among other things, to internationalise its activities and invest through an oil and gas value chain. Sonatrach has aimed to have its footprints on every stage of the natural gas business in Algeria, from extraction, processing, to transporting and distribution to end users abroad. In 2008, the government announced an investment programme worth US\$63bn to expand the downstream and upstream oil sector over the period of 2008-12.

The decisions made by Sonatrach's managers and policy makers at the government level in relation to the hydrocarbon sector are shaped by several principles and fundamentals that are specific to the oil and natural gas sectors. They determine the type of investments to make, and their timing and location. This does not mean that these fundamentals are the only ones that govern the sector: the investments of Sonatrach are also subject to the same principles, laws and rationales that govern the world of business, for instance simple cost-benefit analysis. In the following, some of the fundamental patterns associated with the management of hydrocarbons from the exporting countries' perspective will be presented, before an examination of the type and location of these investments.

## Sustainable Use of Resources

Algerian policymakers are aware that Algeria's natural resources will be exhausted at some point. The non-renewable nature of hydrocarbon wealth calls for cautious management for the benefit of future generations.<sup>17</sup> The Algerian government has set up an institutional body to deal with the rational use of the nation's energy resources known as National Agency for the Promotion and Reform of Energy Use (Aprue).<sup>18</sup> Sonatrach is seeking to address these problems to a large extent by launching campaigns to use rationally the national resources of Algeria.<sup>19</sup> Ex-Chief Executive of Sonatrach Abdelmajid Attar revealed in 2008 that Algeria's oil and gas reserves are sufficient only for 18 and 50 years respectively, at current production rates. He recommended several actions. First, the government should wisely use its own reserves through a sustainable export policy that respects the future interests of the country, investing in renewable energy sources, and increasing exploration efforts. He suggested linking the percentage increase of hydrocarbon exports to the identification of equivalent new resources.<sup>20</sup>

Chakib Khelil, Minister of Energy and Mining, believes that on economic grounds, producing just for generating more money is not necessarily the best policy. Producing in a sustainable manner is less risky than depositing money in banks in foreign currencies with the constant risk of foreign exchange rate changes or risks associated with international developments such as the current financial crisis.<sup>21</sup>

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<sup>17</sup> Jon Marks *Commentary on Algeria*, Working Paper, Chatham House, April 2008.

<sup>18</sup> Chakib Khelil, "Keynote speech", International Conference for Renewable Energies, Bonn. 1<sup>st</sup> June 2004. [http://www.renewables2004.de/pdf/khelil\\_opening\\_en.pdf](http://www.renewables2004.de/pdf/khelil_opening_en.pdf) (accessed March 2009)

<sup>19</sup> Hadjira Balou, "Energy Savings: A Long-term Effort", *Mine & Energy*, No.2, April 2004: 48

<sup>20</sup> "Les réserves d'hydrocarbures en Algérie: Pour combien d'années aurons-nous encore du pétrole ?", *El-Watan*, 8 January 2008.

<sup>21</sup> Khelil, "keynote Speech", *ibid.*

The foreseeable depletion of hydrocarbon reserves pushes Algeria to consider different venues to face this economic challenge. One is the building of civil nuclear plants to meet the increasing energy demand at home. The Algerian decision-makers see in nuclear energy a solution to the increasing demand for power and desalinated water. To provide this semi-arid country with fresh water, the government relies on the desalination of sea water, an energy-intensive process. The government's goal is to produce about 2.3 million cubic metres per day by 2011.<sup>22</sup> By opting for nuclear electricity generation, Algeria will alleviate the pressure on its national hydrocarbon resources as well as the emerging solar energy potential. Exports of oil and gas provide the country with income in foreign currencies. Fossil fuels and alternative energy resources position Algeria as a regional player in the Euro-Mediterranean region.

Algeria aims to develop its first nuclear power station by 2020, and then add a new one every 5 years.<sup>23</sup> The country is clearly dependent on foreign technology and expertise, and has signed several nuclear agreements with countries including Argentina, China, France and the US. The government has also drafted a bill to create a nuclear energy safety agency and a company to develop the reactors, that will be presented to the parliament soon.

## Security of Demand

Energy security means different things to different global market players. A short synthesis of the literature dealing with energy security shows that these issues have been analysed mainly from the importing countries' perspective. The focus is in many cases on supply disruption. Security of energy can mean something else when it is seen from the producing/exporting countries' perspective, where securing demand is a great concern. The previous Secretary-General of OPEC, Abdalla Salem Al-Badri, stated during a conference at Chatham House in London that energy security should be reciprocal. "It is a two-way street. Security of demand is as important to producers as security of supply to consumers, as investment in upstream capacity and transport infrastructures requires sustained demand growth."<sup>24</sup>

This section will focus on demand security in the context of natural gas, which is different from oil. In the crude oil business, producing countries, mainly in OPEC, use the security of demand as a justification to keep production capacity tight for as long as possible.<sup>25</sup> The producing countries are worried about making large capital investments to extend production and exporting capacity in a context of uncertainties related to the stability of demand growth. The risks related to demand security for the Algerian government arise from increasing competition through other rising natural gas exporters of LNG, the rise of the share of alternative energy sources, and potential drops in demand as result of an economic downturn in the European market or at the global level.

The protection of demand security thus shapes the business model of Sonatrach. To ensure demand security, Algerian managers have adopted legal, commercial and investment instruments including pay or take clauses and long-term contracts, among other business strategies. Until very recently, signing long-term contracts with the consuming markets was regarded as a major remedy for future market uncertainty. But while long-term contracts

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<sup>22</sup> "L'Algérie Investira dans le Dessalement de l'Eau de Mer" 22 March 2009, <http://www.algerie-dz.com/article16852.html>

<sup>23</sup> "Algeria to build a nuclear every 5 years after 2020", *Elmoudjahid*, 24 February 2009. <http://www.elmoudjahid.com/accueil/englishedition/27459.html>

<sup>24</sup> Speech at the Chatham House Conference "Middle East Energy 2008 - Risk and Responsibility: The New Realities of Energy Supply", London, 4 February 2008

<sup>25</sup> Jan-Hein Jesse and Coby Van der Linde *Oil Turbulence in the Next Decade: An Essay on High Oil Prices in a Supply-constrained World*, The Hague, Clingendael International Energy Programme, June 2008: 39

tackle the issue of the credit worthiness of large investments, they are not flexible in terms of prices, as they do not adjust to fluctuations on international markets. Furthermore, Sonatrach has included clauses in all its long-term contracts that ensure that the buyers have to pay whether the gas is taken or not. Such clauses ensure stable returns on the large investments that are required for natural gas projects, despite buyers' dislike.

From the Algerian perspective, the growth of demand could come under question, as other major options for power generation are retaining attention and interest. Many countries are reconsidering the nuclear power option. When the European Commission adopted the liberalisation directive, Algeria protested and considered it as a measure that undermines the growth of demand for its own energy exports.

The company managers have used their own models to calculate the increase of demand on the global market. They did not rely on studies and projections by the International Energy Agency, since this agency represents the interests of industrial countries (OECD) and they change over time. The World Energy Outlook of 2005 forecast global demand growth of 2% over the period 2004-30.

## **Maximising Profits**

Profit maximising is a very important factor that shapes the Algerian energy policy and all decisions made by Sonatrach and Algeria's Ministry of Energy and Mining. The best way to illustrate this is by looking at the recent change of the terms of natural gas exports to the European Union market. Within the framework of establishing a common energy market, the European Commission initiated negotiations to change the known territorial restriction clause, which is a common component of the majority of contracts between Sonatrach and European countries. This clause restricts the geographical area in which a buyer can sell and distribute natural gas. The Algerian negotiators accepted this demand on condition that their commercial partners accepted to replace this clause with a profit-sharing mechanism. This mechanism will allow Sonatrach to share profits with the buyers on the amount of the gas sold by the buyer to customers outside the agreed territory, as Sonatrach insists on receiving economic benefits from the change of their exports' destination.

Vertical integration allows the hydrocarbon company to increase the value added of Algeria's hydrocarbon resources. It allows increasing the profits as the company will be involved in every stage of the production chain. Reducing costs is another factor that motivates integration activities. Diversifying sources of income will help to balance and protect the company and national economy from instabilities of the market.

## **Diversification: Geographic and Segmental Investment**

In addition to making profits, investments in downstream activities abroad and mainly in the major partners' territories are seen as a way to assure demand security for Sonatrach's natural gas exports; They are also intended to extend Sonatrach's reserves and production capacity. Therefore, Sonatrach is following the strategy developed by the Russian state-owned hydrocarbon company Gazprom. Algeria has made several upstream investments in other countries in Africa and South America. In order to further extend its investment from upstream to downstream within national borders and abroad, Sonatrach capitalises on its know-how and financial capabilities as well as the country's special political relations with African and South American countries.

Algeria also launched an aggressive investment strategy in downstream activities in south European countries, mainly in Spain. In addition to the desire of realising more value from their resources, the aim is to secure its own traditional market in view of increasing

competition from other LNG exporters such as Qatar and other Middle Eastern countries through full control of the value chain. Qatar's massive investments in the natural gas sector make Sonatrach's fears of other new LNG producers' competition on the market more real. Spain's change of its means to import natural gas by moving toward more LNG rather than piped gas has sent alarming signals to Algiers. Spain is a leading importer of LNG in Europe and ranks the third largest importer of LNG in the world. Spain used to import 60% of its gas needs from Algeria but has managed to reduce its dependency in the last five years to 30%.<sup>26</sup> This is because Spain has invested heavily in re-gasification plants in order to access other sources of gas from Qatar, Nigeria and Egypt. This tendency threatens Algeria's interests as it brings new competitors to one of its tradition markets. In response, Sonatrach applied for a licence to commercialise gas in Spain, which was accepted. But Spain imposed heavy restrictions on the commercialisation of gas by Sonatrach's affiliate company, Sonatrach Gas Comerziladora SA.

Sonatrach's accession to the distribution business in Spain was not without disputes and has rung alarm bells for national gas distribution companies in Spain. The Spanish companies now face the threat of not only losing downstream businesses as result, but also through being attacked on their own home "protected" markets. The Algerian move jeopardises the Spanish government's strategy of diversity of supply. There will also be a risk of an unfair advantage for Sonatrach over Spanish suppliers, which have called Sonatrach the "Gazprom of the Mare Nostrum."<sup>27</sup>

Another country in which Sonatrach will make direct sales to end-users is Italy. Once the Galsi pipeline project that links Algeria and Italy via Sardinia is built and operating, Sonatrach will be able to sell 3 bn cubic metres directly to Italian homes and businesses. Since Europe is trying to consolidate its energy security through diversification, this trend of Sonatrach investing in the natural gas distribution sector in Europe may become a threat, as it consolidates its share of the market and weakens the competition from other potential players, mainly through LNG shipments.

Sonatrach, furthermore, follows a diversification strategy into other sectors, capitalising on its financial and human resources to reduce costs, diversify income, and maximise profits. Sonatrach is a partner in all the mega-projects that Algeria is developing as part of its economic diversification strategy. For example, Sonatrach is the main partner in the potential aluminium project of UAE companies, as well as for a fertiliser plant with the Egyptian holding Orascom. This enables Sonatrach to be an agent of the new economic reform that Algeria is embarking on. The availability of funds and experience in doing international business has positioned the company to play this major role. In November 2008, Sonatrach announced plans to set up a bank that will provide finance to hydrocarbon investment projects.<sup>28</sup> It is clear that Sonatrach is trying to capitalise on its financial muscle and its thorough understanding of the hydrocarbon sector. These prerequisites will provide the new bank with a competitive edge.

## **Production and Transportation Facilities**

Algeria's energy strategy forecasts that the demand for natural gas will expand in Europe and around the world due to its cost advantages and cleaner nature relative to other types of fuel. The augmentation of demand for natural gas is driven by the increasing use of it in

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<sup>26</sup> Ivan Martin "Espana - Argelia: Seguridad Energitica e Interes Mutuo" *Boletin de Economia y Negocios de Casa Arabe*, September/October 2007

<sup>27</sup> "Sonatrach, la 'Gazprom del Mediterraneo' para los directivos gasistas españoles" *Eleconomista*, 12 May 2008. <http://www.eleconomista.es/flash/noticias/530959/05/08/Sonatrach-la-Gazprom-del-Mediterraneo-para-los-directivos-gasistas-espanoles-.html> (accessed March 2009)

<sup>28</sup> *Africa Research Bulletin*, 45/11, 2009: 18058

industry and electricity generation. According to the European Union of the Natural Gas Industry known as Eurogas, EU-27 consumption of natural gas is expected to increase by 43% by 2030, from 438 million tonnes oil equivalent (mtoe) in 2005 to 625 mtoe.<sup>29</sup> Different reports from several other organisations also point toward the increase of natural gas trade.

The Algerian government is investing heavily in the maintenance of the existing production facilities as well as in building new capacities. These new capacities mainly involve the natural gas sector, with a clear aim to seize all opportunities of the global energy market. Sonatrach plans to invest US\$63 billion over the period 2008-12.<sup>30</sup> At the same time, Algeria is still committed to all its production expansion projects, despite the international price have drop in the second half of 2008. Fluctuations in demand on the natural gas market are different from the ones associated with oil. First, the international trade with natural gas is realised through long-term contracts, which means less exposure to the fluctuations on the financial markets. Secondly, there is a global trend to use more natural gas because of its environmental friendliness.

On the transportation front, Algeria is jointly building with its European partners two new pipelines to increase Algerian export capacity and to enhance supply security. Subsea power cables will be laid in conjunction with both pipelines. The first pipeline, Medgas, will run from Bni Saf in Algeria to the Spanish city of Almeria. This 210 km long pipeline is owned by a consortium of Algerian, Spanish and French companies. Medgaz's shareholders are Sonatrach (36%), Cespa (20%), Iberdrola (20%), Endesa (12%) and Gaz de France (12%). It is important to note that Sonatrach's stake was increased from the original 20% at the time of setting up the consortium by a decision of the Spanish National Energy Commission. This decision came after a long dispute among the partners in the consortium. The Medgaz pipeline project is designed to transport 16 bn cubic metres of gas per year to meet the increasing demand needs of the Spanish and European markets. The pipeline will be commercially operational in January 2010, starting with 8 bn cubic metres per year.

In November 2007, Algeria and Italy signed an intergovernmental agreement to implement the 940 km long GALSI gas pipeline. The project includes the construction of two 24 inch undersea pipelines from Algeria to Italy through Sardinia and Corsica. Once completed in 2012, the gas pipelines will transport 8 bn cubic metres a year to Italy.<sup>31</sup> Sonatrach owns 41.6% of the GALSI consortium, with the rest of shares being distributed among Edison (20.8%), Enel (15.6%), Hera (10.4%), and a company from Sardinia known as Sfires with a stake of 11.6%.

Sonatrach's international investments in the exploration and production of hydrocarbon projects are carried out by its subsidiary Sonatrach International Petroleum Exploration & Production (Sipex), a company which was incorporated in 1999, and registered in the British Virgin Islands. To facilitate the role of Sipex in achieving the goal of Sonatrach becoming an international player, the government announced that it will allow IOCs to have access to upstream opportunities only if reciprocal access is given to Sonatrach elsewhere in the world.<sup>32</sup>

In 2007, Sonatrach acquired a 20% stake in Taoudenni permits in Mauritania from Total. This agreement is significant, as it was the first project between the two partners outside

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<sup>29</sup> The European Union of the Natural Gas Industry, *Natural Gas Demand and Supply: Long Term Outlook to 2030*, <http://www.eurogas.org/uploaded/Eurogas%20long%20term%20outlook%20to%202030%20-%20final.pdf> (accessed March 2009)

<sup>30</sup> *Arab Oil and Gas Magazine*, Vol. XLVI, February 2009: 12

<sup>31</sup> "GALSI: Un projet qui sécurise l'approvisionnement en gaz à long terme de l'Italie," Sonatrach, *La Revue*, No. 55, April 2008: 8. <http://www.sonatrach-dz.com/revue-sh/sh-rev55.pdf> (accessed March 2009)

<sup>32</sup> "The Rise of the Consultant Major," *Petroleum Economist*, August 2008



Algeria.<sup>33</sup> Partly capitalising on its political relations, Sonatrach moreover managed to acquire a 21% stake in the Peruvian firm Transportadora de Gas del Peru (TGP), and a 10% share in the Consorcio Camisea, a consortium that operates Camisea fields. In Portugal, Sonatrach has signed a venture agreement in 2007 to acquire about a quarter of three combined cycle gas turbine plants in Portugal owned by EDP-Energias.

## Liquefied Natural Gas

Algeria had the first LNG plant in the world. Its first LNG exports to the UK date back to the mid-1960s. In 2007, Sonatrach's LNG exports amounted to 39.6 bn cubic metres.<sup>34</sup> At the time of writing, Algeria was ranked the world's fourth largest LNG exporter, just behind Qatar, Indonesia and Malaysia. Today, increasing LNG export capacity is Sonatrach's primary objective to meet increasing global demand. The share of LNG in energy supply in most importing countries is increasing, to foster an energy security mix and diversity of supply. According to the International Energy Agency, India and China as recent emerging consumers have begun importing LNG in 2004 and 2006 respectively.<sup>35</sup> The share of LNG in the global gas consumption is 25%.<sup>36</sup> According to the US Energy Information Administration, US imports of LNG are expected to reach about 369 billion cubic feet in 2009.<sup>37</sup> Expanding LNG export capability will allow Algeria to meet the increasing demand of distant markets in Asia, North America and Northern Europe.

It is important to note that LNG is not a type of natural gas, it is natural gas which is liquefied at very low temperatures and transported in special bulk carriers. Once it reaches its destination port, it is regasified in special terminals. Having LNG facilities helps to reduce the effect of disruptions of pipeline gas supply. LNG supplies provide more flexibility than pipeline gas in adjusting supply to demand, since they can be easily directed among markets. Developing an LNG market is a right step for Sonatrach's strategy to enhance demand security. International trade in LNG is growing rapidly, due to its enhancement of security of supply to importing countries on one hand. On the other hand, it allows exporting countries to increase and diversify their clients. LNG is a balanced solution to the Distance and Diversity equation in the natural gas market.

Spain is a leading country in Europe as far as LNG receiving facilities are concerned. Spain owns five re-gasification terminals: Barcelona, Sagunto, Cartagena, Huelva and Bilbao. The country has had to diversify its gas import sources as it is heavily import-dependent, with 99% of its gas coming from abroad.<sup>38</sup> This is the highest rate in the EU, where the gas import-dependency average is 50%.<sup>39</sup> The growth of LNG import terminals in Spain offers an example which may become a trend in other countries in Europe and emerging economies globally. The increase of global demand on energy on the one hand, and changing features of Russian foreign policy on the other, are sending alarm signals to the EU countries.

Algeria presently has four plants with a global capacity of 42 million cubic metres. The country has made several investments in existing LNG terminals as well as new ones. It is building a new integrated LNG train facility near the city of Azrew with a 4.7 million tonne liquefaction capacity. This project was supposed to be developed jointly by Sonatrach and

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<sup>33</sup> *Arab Oil and Gas Magazine*, May 2008: 14

<sup>34</sup> Sonatrach *Annual Report 2007*: 67

<sup>35</sup> International Energy Agency, *World Energy Outlook 2007: China and India Insights*, Paris, IAE Publications

<sup>36</sup> Cidegas, *2007 Natural Gas Year in Review*, Press Release, 7 May 2008

<sup>37</sup> Energy Information Administration, *Short-Term Energy Outlook*, February 2009: 5

<sup>38</sup> Javier de Quinto and Julian Lopez "Security of Supply: Spanish Policies in the EU context", in *Energy Security: Vision from Asia and Europe*, Ed. Antonio Marquina, Palgrave Macmillan, 2008: 107

<sup>39</sup> Paul Isbell, *La Dependencia Energética y Los Intereses de España*, Real Instituto Elcano, ARI No 32/2006

two Spanish companies, Repsol-YPC and Gas Natural, but the project was withdrawn from them in 2007.<sup>40</sup> Now the project is going to be developed by Sonatrach alone. The termination of the contract contributed to the escalation of the dispute between the two governments. Furthermore, the Algerian government has already started work on the damaged Skidda liquefaction plant, which, once built, will have a production capacity of 4.5 million tonnes a year.<sup>41</sup>

Sonatrach is also planning to reinforce its LNG shipping capability by acquiring a bigger LNG fleet. Early in 2008, the company launched a tender to acquire with other partners two LNG tankers to be added to the current 9 LNG vessels. Enlarging its fleet is not only an investment to increase profits, but also once more a strategic move to control more of the value chain. It is complementary to the investments in the re-gasification station in the destination markets, which will allow Sonatrach's direct access to end consumers around the world.

## Renewable Energy

Sonatrach has also launched a business line to harvest power from the sun. It capitalises on the Algerian climate and geographic patterns. In addition to being a vast natural gas repository, Algeria with its Sahara desert also possesses great potential to be a leading producer of solar energy. In its energy strategy plans, Algeria has set a target to increase the share of renewable energy in its total supply to 5% by 2010. Sonatrach uses its hydrocarbon wealth and money generated from its exports to promote and build infrastructure capacity to produce and export renewable energy.

Sonatrach already holds 45% of the shares of New Energy Algeria (NEAL), a joint venture with Sonelgaz and another private partner that was set up in 2002 with the aim to generate and export solar energy. Tewfik Hasni, Chief Executive of NEAL, was quoted as saying: "Our potential in thermal solar power is four times the world's energy consumption so you can have all the ambitions you want with that."<sup>42</sup> Currently, NEAL is involved in a project known as "Clean Power from the Desert" that aims to build a 3000 km cable that will be laid from the Algerian city of Adrar to the German city of Aachen, crossing through Sardinia, Italy and Switzerland.

It is important to note that several leading national oil companies from rich hydrocarbon countries are involved in producing alternative energy. The best example is Brazil's state owned oil and gas company Petrobras, which recently announced a plan to produce bio-fuels and ethanol. For the period 2009-13, Petrobras has dedicated US\$2.4 billion, with the aim of reaching a production of 640 million litres of bio-diesel and 1.9 billion litres of ethanol by 2013. Brazil is capitalising on its vast agricultural lands for its share in the emerging alternative energy market.<sup>43</sup> Algeria thus does not stand alone in the race for new, future energy markets and products.

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<sup>40</sup> "Contractors to welcome Arzew Plant Award", *Middle East Economic Digest*, 5 August 2008; [http://www.meed.com/news/2008/08/arzew\\_plant\\_award\\_could\\_work\\_in\\_algerias\\_favour.html#gassi+touil+arzew&cd=11&hl=en&ct=clnk&gl=uk](http://www.meed.com/news/2008/08/arzew_plant_award_could_work_in_algerias_favour.html#gassi+touil+arzew&cd=11&hl=en&ct=clnk&gl=uk) (accessed March 2009)

<sup>41</sup> "Sonatrach to invest 45 billion dollars in the next 5 years," *Energie & Mines*, No.9, July 2008: 7

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## Conclusion

As the world and particularly Europe is preparing to reduce dependence on oil, both in view of high oil prices and environmental issues, gas energy gains increasing momentum. Sonatrach, Algeria's national energy company, will be one of the largest winners from this development. The energy company, which owns and transports both oil and gas to Europe, has become increasingly a gas provider to Europe, and has been transformed over recent years in an attempt by the Algerian government to make it an international, rather than only a national player.

This restructuring process has been thorough and far-reaching, and included regulatory changes in Algeria's legal framework which were viewed abroad initially with scepticism. But the revision of the national hydrocarbon law is aimed at fostering the process of restructuring Sonatrach, not as a sign of a new Algerian nationalisation process.

Sonatrach's current restructuring process and its success is of paramount importance for Algeria's economic development and growth. Being economically dependent on the export of non-renewable oil and natural gas resources, Algeria sees in the modernising and internationalisation of Sonatrach a strategic move for sustainable economic growth. Rising competition by new natural gas exporters such as Qatar, which aims to become a leading world LNG exporter, has provided further incentives for Sonatrach to make further international downstream investments.

Being Africa's second largest holder of natural gas reserves, as well as a potential transit route for other hydrocarbon exporters, Algeria has a high potential for a large future role on the energy markets, and is already an important partner for the European Union with regard to its energy security. Algeria's 100% hold over Sonatrach, Sonatrach's dominance of Algeria's gas sector, and the company's investments and expansion abroad, are important tools that are likely to make Sonatrach a leading energy giant.

Algeria is part of an international trend that is characterised by the revival of a national interest in the nuclear power industry. Nuclear power is seen in Algiers as a way to use the national hydrocarbon resources in a sustainable manner. Algeria is following a different path from the one taken by Iran to develop its civil nuclear programme, having thereby chosen more transparency and international cooperation.

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