Eliminating distances, bringing energy closer

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MEDGAZ

Algeria-Europe Gas Pipeline, via Spain

Pedro Miró
WPC
Madrid, July 2008
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Project Description
Mission

➢ To build and operate a deepwater gas pipeline from Beni Saf, on the Algerian coast, to Almería, on the Spanish coast. MEDGAZ will transport natural gas to the European market, thus helping to meet the growing need for this source of energy in a safe and environmentally responsible manner, creating value for customers, employees and shareholders.

Objectives

➢ To construct a natural gas pipeline from Algeria to Spain, crossing the ultra-deep waters of the Mediterranean Sea, while meeting the following targets:

   • To respect all international HSE standards
   • To remain within the Construction Budget
   • To start “First Gas” in 2009

➢ To provide to its Shippers the entire pipeline capacity throughout the life of the infrastructure on a firm daily basis.

➢ To be able to expand transportation capacity up to 16 BCM/year via the installation of a second sub-sea pipeline.
Route

- Algerian Onshore
- Offshore Pipeline
- Compressor Station
- Reception Terminal
- Spanish Onshore

Project description

Hassi R’Mel
MEDGAZ
Beni Saf
Almeria
Hassi R’Mel
Spanish Onshore

Algerian Onshore
Offshore Pipeline
Compressor Station
Reception Terminal
Spanish Onshore
Technical Summary

- Length: **210 km**
- Diameter: **24 inches**
- Capacity: **8 BCM/year**
- Maximum water depth: **2,165 m**
- Cost: **900 M€**
- Workforce: Over **2,000 people** will be involved in the construction phase
International Shareholding

- **Founders**: CEPSA and Sonatrach.
- **Other shareholders**: Iberdrola, Endesa and Gaz de France.
- The shareholding structure has been determined based on the natural gas supply agreements between each partner and Sonatrach.

<table>
<thead>
<tr>
<th></th>
<th>Volume of contracted natural gas</th>
<th>Shareholding in MEDGAZ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SONATRACH</strong></td>
<td>2.88 BCM/year</td>
<td>36%</td>
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<tr>
<td><strong>CEPSA</strong></td>
<td>1.60 BCM/year</td>
<td>20%</td>
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<tr>
<td><strong>IBERDROLA</strong></td>
<td>1.60 BCM/year</td>
<td>20%</td>
</tr>
<tr>
<td><strong>ENDESA</strong></td>
<td>0.96 BCM/year</td>
<td>12%</td>
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<tr>
<td><strong>GAZ DE FRANCE</strong></td>
<td>0.96 BCM/year</td>
<td>12%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>8.00 BCM/year</td>
<td>100%</td>
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</table>
MEDGAZ SA is a Spanish company with a permanent establishment in Algeria.

Agreements and Internal Contracts:
- Transportation Contracts
- Shareholders Agreement

External Agreements:
- EPC Contracts
- Interconnection Agreement with ENAGAS
- Interconnection Agreement with SONATRACH
# Main EPC Contracts

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Successful Bidder</th>
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<tbody>
<tr>
<td>Line pipe supply and coating</td>
<td>-Mitsui&lt;br&gt;-Sumitomo</td>
</tr>
<tr>
<td>Turbo-compressors supply</td>
<td>Rolls Royce</td>
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<td>Sub-sea pipeline engineering, construction, and pre-commissioning</td>
<td>Saipem, S.p.A.</td>
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<tr>
<td>Compressor Station and Receiving Terminal engineering, construction, and commissioning</td>
<td>Técnicas Reunidas-Amec Spie Consortium</td>
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Key Points
MEDGAZ: a Strategic Project

- Improves **security of supply**
- Is the **most cost-effective** way of supplying natural gas to Southern Europe
- Meets **growing demand** for natural gas in Europe
- Makes a positive contribution towards the Kyoto Protocol implementation
- Is a technological **challenge**
- Has a strong **Administration support**
NG/LNG Supply 2007

Key points

LNG imports: 69.3%
NG imports: 30.7%

MEDGAZ = MORE SECURITY OF SUPPLY FOR SOUTHERN EUROPE

Source: CNE
Natural gas supply routes to Southern Europe

Key points

- **Most direct route**
  - Shorter length (than GME*)
  - Lower energy cost and no transit tolls
  - Most cost-effective way of supplying natural gas to Southern Europe

Source: OME
**Strong Administration Support**

MEDGAZ, a world class, multinational, multitask, high tech project, needs a solid support from the Authorities and has counted on it from the beginning:

- **Europe:**
  - "Project of Priority Interest" within Trans-European Networks in the Energy Sector"
  - “Quick Start” Program
  - Financial aid for preliminary studies

- **Spain**
  - All Environmental and Administrative permits obtained on time.

- **Algeria**
  - Environmental and Administrative permits obtained on time.
Timetable
Global Project

**Firm Investment Decision

Front End Engineering & Design

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<tr>
<th>Event</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
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<th>2008</th>
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<td>1s</td>
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<td>Confirmation of Definitive Route (FEED)*</td>
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<td>Transition: Construction Company</td>
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<td>Commercial Agreements</td>
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<tr>
<td>Permitting in Spain</td>
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<td>2s</td>
<td>1s</td>
<td>2s</td>
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<td>2s</td>
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<td>2s</td>
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<td>Firm Investment Decision (FID)**</td>
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<td>Project Execution</td>
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<tr>
<td>Start-up (First Gas)</td>
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**Firm Investment Decision

*Front End Engineering & Design
# Construction

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<th>2006</th>
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<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>Contract Awarding</td>
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<td>Material Fabrication</td>
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<td>Detailed Engineering</td>
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<td>Construction</td>
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<td>![2009]</td>
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<td>Commissioning</td>
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<td>![2009]</td>
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<tr>
<td>First Gas</td>
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<td>![2009]</td>
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</tbody>
</table>
Construction Stages
Chronology: Main Milestones

- **F.I.D.:** Beginning of the Construction Phase
  - Dec.

- **Beginning of the pipeline coating, Japan**
  - June

- **Beginning of the pipeline manufacturing, Japan**
  - Feb.

- **Earthworks, Almería**
  - Sept.

- **The first shipment of pipes arrives in Almería**
  - Oct.

- **MEDGAZ receives 100% of the pipes**
  - Feb.

- **MEDGAZ completes the landfall**
  - June

- **EPC contracts**
  - Feb.

- **Earthworks, Beni Saf**
  - Jul.

- **The Castoro Sei vessel begins welding pipes in Almería**
  - Mar.

2006 - 2007 - 2008
Conclusion

**MEDGAZ**, a world class project, thanks to the endorsement from the governments and the engagement of the shareholders **is close to reaching its target on time and on budget.**
Additional Information
1- Marine Surveys, 2004

- HUGIN 3000-GC
  - 509 Km. Visual inspection

- Triton XL-14
  - 15 km Geophysical
  - 130 km Visual inspection
2- Pipe Manufacturing

- Pipe manufacturing in Japan. March 2007
- Polypropylene coating in Malaysia. May 2007
3- Unloading

- Almería. October 2007
4- Pipe storage

5- Reception Terminal, Almería

- Landfall, June 2008
- Building foundations, June 2008
6- Compressor Station, Beni Saf

- Air coolers foundations, June 2008
- Permanent camp, June 2008
7- Castoro Sei, offshore pipeline construction vessel

- Almería, March 2008
8- Quadruple joint welding

- Almería, April 2008
9- Castoro Sei, offshore pipeline construction vessel: pull in

- Almería, May 2008
9- Castoro Sei, offshore pipeline construction vessel: pull in

- Beni Saf, June 2008
10- Compressors

- Gas generator. Montreal, August 2007
- Turbocompressor preparation. Le Havre, February 2008
- Compressor ready for shipment. June, 2008
Thank you for your attention