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Further copies of this map may be purchased from:
The Petroleum Economist Ltd
69 Carter Lane
London EC4V 5EQ
UNITED KINGDOM
Telephone: +44 020 7779 8800. Fax: +44 020 7779 8899/8896
e-mail: marketing@petroleum-economist.com

Scale: approx; 1: 2,564,000

0 miles 50 100 150
0 kilometers 100 200 300

OIL AND GAS

- Oilfield
- Oil pipeline
- Oil pipeline under construction or planned
- Oil refinery
- Petrochemicals plant
- Oil tanker import/export terminal
- Gasfield
- Gas pipeline
- Gas pipeline under construction or planned
- Condensate pipeline
- Condensate pipeline under construction or planned
- LPG pipeline
- LPG pipeline under construction or planned
- Gas processing plant
- LNG export plant existing
- LNG export plant under development
- LNG import terminal
- LPG tanker terminal
- LPG plant
- Helium plant

CARTOGRAPHIC INFORMATION

- Main conurbation
- Administrative centre
- International boundary

RELIEF

Topography: 3,000m+, 2,000m, 1,000m, 500m, 200m, 100m, sea level

Bathymetry: sea level, -100m, -200m, -500m, -1,000m, -2,000m, -3,000m, -4,000m

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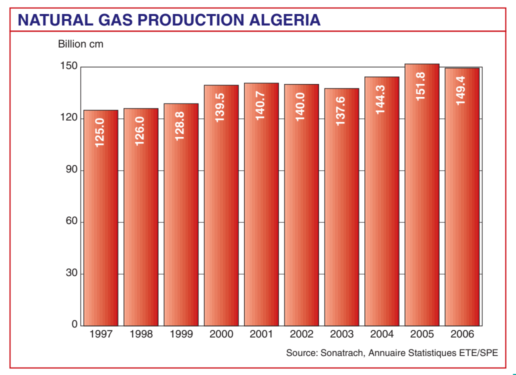

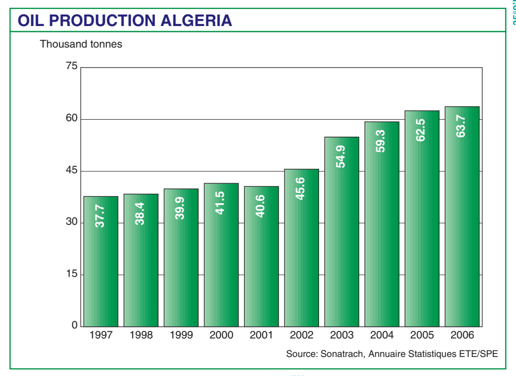

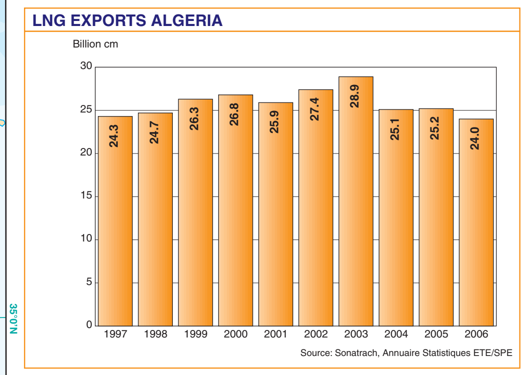

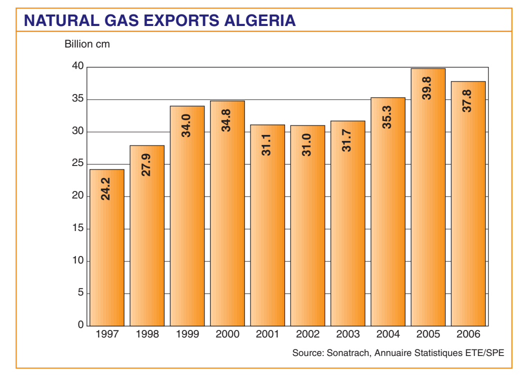

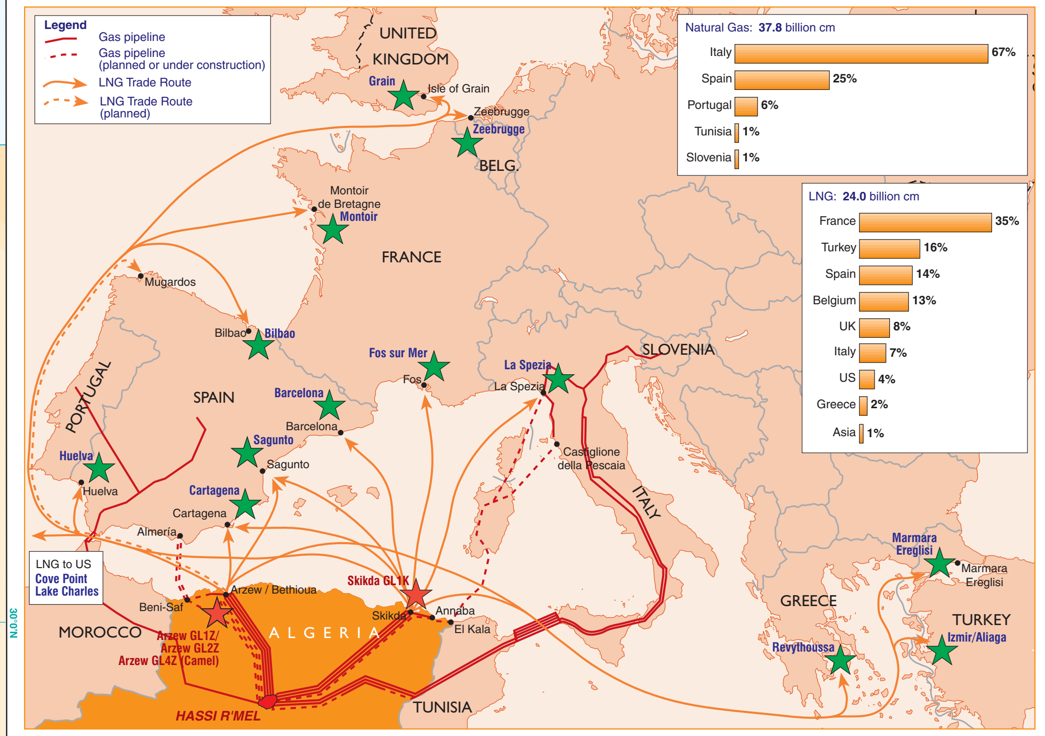

REFINERY PLANTS

Type	Start up	Location	Distillation capacity (million t/y)	Reforming capacity (b/d)	Other units	Shareholders
Crude Refinery	1980	Skikda	18.00*	2 x 30,000	Aromatics, Naphtha isom, Bitumen	SH: 100%
Crude Refinery	1973	Arzew	4.35*	11,500	Lube, Bitumen	SH: 100%
Crude refinery	1964	Alger	2.70	15,000	-	SH: 100%
Crude Refinery	1962	Hassi Messaoud	1.06	2,400	-	SH: 100%
Crude Refinery	2006	Adrar	0.60	2,300	RFCC	SH: 30%, CNPC: 70%
*Condensate Splitter***	*2009*	*Skikda*	*5.00*	-	-	*SH: 100%*
*Crude Refinery ****	*2012*	*Tiaret*	*15.00*	*Under study*	*Under study*	*SH: 65%, Partner: 35%*

PETROCHEMICAL PLANTS

Complex	Start up	Location	Capacity (thousand t/y)	Other units	Shareholders
Ethylene	1978	Skikda	120	Chlore Alkali, EDC/VCM, PVC, LDPE	SH (ENIP): 100%
Methanol	1976	Arzew	112	Resins & glue	SH (ENIP): 100%
HDPE (Polymed)	2005	Skikda	130	-	SH (ENIP): 100%
Propane Dehydrogenation (PDH)	2003	Tarragona (Spain)	350	-	SH: 49%, BASF: 51%
*Ammonia (1)****	*2010*	*Arzew*	*1,320*	*Urea (1,073,000 t/y)*	*SH: 49%, OCI: 51%*
*Ammonia (2)****	*2011*	*Arzew*	*1,320*	*Urea (1,073,000 t/y)*	*SH: 49%, SGBH: 51%*
*Ammonia (3)****	*2012*	*Beni Saf*	*600*	*Urea: to be defined*	*SH: 49%, Partner: 51%*
*Methanol****	*2011*	*Arzew*	*1,000*	-	*SH: 49%, Partner: 51%*
*Ethylene ****	*2012*	*Arzew*	*1,100*	*LLDPE, HDPE, MEG*	*SH: 49%, Partner: 51%*

* After revamping to be finished in 2010 ** Under construction *** Under development

HELIUM PLANTS

Technical data sheet	HELIOS	HELISON	ARZEW HELIUM II (under development)
Location:	Arzew (within the perimeter of GL2Z)	Skikda (within the perimeter of GL1K)	Arzew (within the perimeter of GL1Z)
Supply:	Feed gas from GL2Z plant	Feed gas from GL1K plant	Feed gas from GL1Z plant
Products:	Liquefied helium and nitrogen (liquid & vapour)	Liquefied helium and nitrogen (liquid & vapour)	Liquefied helium and nitrogen (liquid & vapour)
Process used:	Air Products	Linde AG Allemagne	Under development
Number of trains:	2	1 helium extraction and liquefaction line	1 helium extraction and liquefaction line
Date of first production:	February 1995	May 2006	Under development
Production capacity:	16.08 million cm/y Helium 33,000 t/y Nitrogen	17.70 million cm/y Helium (0.66 bn cf) 33,000 t/y Nitrogen	16.00 million cm/y Helium (0.60 bn cf) 46,000 t/y Nitrogen
Storage capacity:	2 x 113,500 Helium litres 2 x 75,700 Nitrogen litres	2 x 113,500 Helium litres 250,000 Nitrogen litres	2 x 113,500 Helium litres 90,000 Nitrogen litres

LNG PLANTS

Technical data sheet	ARZEW GL1Z	ARZEW GL2Z	ARZEW GL4Z (CAMEL)	SKIKDA GL1K
Location:	Arzew	Arzew	Arzew	Skikda
Area:	72 hectares	72 hectares	95 hectares	92 hectares
Purpose:	Treatment of 10.5 bn cm natural gas/year	Treatment of 10.5 bn cm natural gas/year	Treatment of 1.7 bn cm natural gas/year	Treatment of 5.7 bn cm natural gas/year
Products:	Liquefied natural gas and gasoline	Liquefied natural gas, butane, propane, gasoline and feed gas to HELIOS	Liquefied natural gas and butane	Liquefied natural gas, ethane, butane, propane, gasoline and feed gas to LINDE
Process used:	Air Product	Air Product	Classic Cascade	Teal for the unit 10 Prico for the units 5 & 6
Number of trains:	6	6	3	3 LNG 1 LPG
Constructor:	Bechtel Inc (USA)	Pullman Kellogg	Consortium Technip associated to Pritchard	LNG: Unit 10 Technip LNG: Units 5 & 6 Prichard Rhodes and then recovered by Pullman Kellogg LPG: IHI
Date of first LNG production:	20 February 1978	29 January 1981	September 1964	LNG: Unit 10, September 1972 LNG: Unit 5, 1980; Unit 6, 1981
Capacity:	LNG: 17.56 million cm/y Gasoline: 113,000 t/y	LNG: 17.82 million cm/y Propane: 410,000 t/y Butane: 327,000 t/y Gasoline: 196,000 t/y	LNG: 2.00 million cm/y Butane: 18,150 t/y	LNG: 6.94 million cm/y Ethane: 170,000 t/y Propane: 108,400 t/y Butane: 92,600 t/y Iso-Butane: 84,000 t/y Gasoline: 60,250 t/y
Storage capacity:	3 LNG storage tanks of 100,000 cm each 1 Gasoline spheric tank of 3,280 cm	3 LNG storage tanks of 100,000 cm each 2 Gasoline spheric tanks of 14,000 cm each	3 LNG storage tanks of 11,000 cm each 3 Butane storage vessels of 220 cm each 2 Ethylene storage vessels of 670 cm each	5 LNG storage tanks 308,000 cm total 1 Butane storage tank of 20,000 tons 2 Gasoline storage tanks 2,200 tons total 2 Propane storage tanks 25,000 tons total

Gas Pipelines

Code	From / To	Diameter	Length (km)	Date
GG1	Hassi R'Mel - Isser	42"	436	1981
GR3	In Salah - Hassi R'Mel	48"	520	2003
GK1	Hassi R'Mel - Skikda	40"	573	1971/78
GK2	Hassi R'Mel - Skikda	42"	573	2001
GM1	Gassi Touil - Hassi Messaourd	40"	150	1976
GO1	Hassi R'Mel - O. Safsaf	48"	550	1982
GO2	Hassi R'Mel - O. Safsaf	48"	549	1986
GPDF (GME)	Hassi R'Mel - Europe	48"	521	1996
GR1	Alrar - Hassi R'Mel	42"/48"	961	1987
GR2	Alrar - Hassi R'Mel	42"/48"	963	1996
GZ0	Hassi R'Mel - Arzew	24"/20"	509	1961
GZ1	Hassi R'Mel - Arzew	40"	507	1976/79
GZ2	Hassi R'Mel - Arzew	40"	512	1982
GZ3	Hassi R'Mel - Arzew	42"	512	1989
G03 (Phase I)	PC1 - PC3	48"	291	2006
GO3 (Phase II)	*TD - PC1, PC3 - TA*	*48"*	*246*	*u/c**
GZ4	*Sougueur - Hadjret Enouss*	*48"*	*270*	*u/c**
GZ4 (Phase I)	*Hassi R'Mel - Nador*	*48"*	*300*	*u/c**
GZ4 (Phase II)	*Nador - Arzew*	*48"*	*217*	*u/c**
GZ4(Phase III)	*Mocta Douz - Beni Saf*	*48"*	*122*	*u/c**
GG2	*Hassi R'Mel - Sidi Aissa*	*42"*	*175*	*planned*
GK3	*Hassi R'Mel - Skikda*		*834*	*planned*
GK4	*Hassi R'Mel - Ain Djasser - El Kala*	*48"*	*430*	*planned*
GR4	*Rhourde Nouss - Hassi R'Mel*	*48"*	*532*	*planned*
GZ5	*Hassi R'Mel - Arzew*	*48"*	*517*	*planned*
MEDGAZ	*Hassi R'Mel - Beni Saf*	*48"*	*540*	*planned*
TSGP	*Algeria section*	*48"*	*2,200*	*planned*
	Djamaa - Touggourt	*20"*	*54*	*planned*

Oil Pipelines

Code	From / To	Diameter	Length (km)	Date
OB1	Haoud El Hamra - Bejaia	24"/22"	668	1959
OD1	El Borma - Mesdar	20"	272	1977
OG1	Beni Manssour - Algiers	16"	131	1971
OH1	In Amenas - Haoud El Hamra	30"	630	1983
OH2	Mesdar - Haoud El Hamra	26"	108	1972
OH3	Hassi Berkine - Haoud El Hamra	30"	295	1999
OK1	Haoud El Hamra - Skikda	34"	644	1972
OT1	In Amenas - La Skhirra (Tunisia)	24"	265	1960
OZ1	Haoud El Hamra - Arzew	28"	801	1965
OZ2	Haoud El Hamra - Arzew	34"	820	2003
ROG1	Beni Mansour - Algiers	16"	142	2006
OH4	Hassi Berkine - Haoud El Hamra	30"	142	2006
OB2	*Haoud El Hamra - Bejaia*	*24"*	*668*	*planned*

Condensate Pipelines

Code	From / To	Diameter	Length (km)	Date
NH1	Hassi R'Mel - Haoud El Hamra	8"	306	1960
NH2	Ohanet - Haoud El Hamra	30"	518	1961
NZ1	Hassi R'Mel - Arzew	28"	506	1978
NK1	*Haoud El Hamra - Skikda*	*34"*	*640*	*u/c**

LPG Pipelines

Code	From / To	Diameter	Length (km)	Date
LNZ1	Haoud El Hamra - Arzew	12"/16"	801	1973
LR1	Alrar - Hassi R'Mel	10"-24"	988	1996
LZ1	Hassi R'Mel - Arzew	24"	504	1983
DLR1	Ohanet - Gassi Touil	16"	403	2004
DLR1 (Extension)	*Gassi Touil - Hassi R'Mel*	*16"*	*457*	*planned*
LZ2	*Hassi R'Mel - Arzew*	*24"*	*506*	*planned*

* under construction

SOURCES

Petroleum Economist
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ENERGY MAP OF ALGERIA

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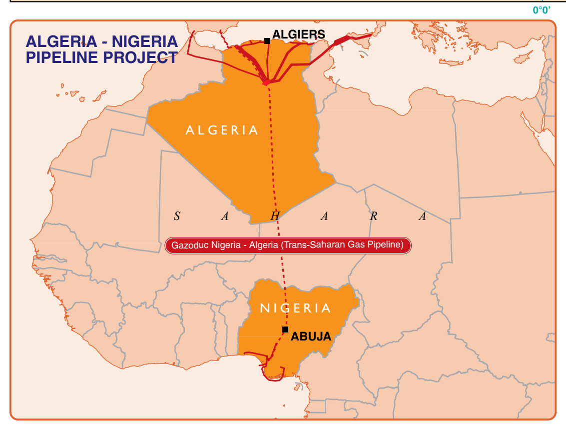
سوناطراك
sonatrach

Sonatrach Headquarters
Djenane El Malik
Hydra
Algiers
Algeria

Tel: (+213) 21 54 70 00
(+213) 21 54 80 11
Fax: (+213) 21 54 77 00
E-mail: sonatrach@sonatrach.dz
Web: www.sonatrach-dz.com



LPG SEPARATION PLANTS

Technical data sheet	GP1Z	GP2Z
Location:	Mers el Hadjadj (Arzew)	Arzew
Area:	120 hectares	13.5 hectares
Products:	Propane, butane and pentane	Propane and butane
Process used:	Distillation under pressure	Distillation under pressure
Number of trains:	6: 4 phase I and 2 phase II	2
Constructor:	Consortium IHI-Itochu (Japan)	CJB (Constructor John Brown)
Date of first production:	First train (phase I): December 1983 First train (phase II): February 1998	March 1973
Production capacity:	7.20 million t/y	1.40 million t/y
Total storage capacity:	Feed: 16 spheres: 6,000 cm Butane: 3 refrigerated tanks: 210,000 cm Propane: 3 refrigerated tanks: 210,000 cm Propane and butane (ambient): 4 spheres: 2,000 cm Pentane: 1 sphere: 500 cm **Under development:** Construction of 3 LPG trains on Phase III with a total capacity of 3.00 million t/y	Feed: 1 sphere: 1,220 cm Butane: 1 refrigerated tank: 70,000 cm Propane: 1 refrigerated tank: 70,000 cm Butane (ambient): 2 spheres: 1,200 cm (each)

LNG PLANTS UNDER DEVELOPMENT

Technical data sheet	GASSI TOUIL LNG PROJECT	SKIKDA LNG - Mega Train Project
Location:	Arzew	Skikda (GL1K complex)
Products:	LNG, NGL and feed gas for Helium plant	LNG, NGL and feed gas for Helium plant
Process used:	Proven Technology - with LPG extraction, Ethane and feed gas fro Helium production plant	Undser study
Number of trains:	1	1
Construction period:	54 months	Under development
Capacity:	LNG: 4.00 million t/y	LNG: 4.00 - 5.00 million t/y
Source/feedstock:	Natural gas from Gassi Touil and Rhourde Nouss gasfields	Natural gas from Hassi R'Mel gasfield
Shareholders:	Repsol YPF and Gas Natural (80%), Sonatrach (20%)	Under development