EGYPT’S
NATURAL GAS
MARKET OVERVIEW
Egypt’s Gas Industry Milestones

- **1st gas Discovery**: 1967
- **1st Industrial customer**: 1976
- **1st Residential customer**: 1981
- **1st CNG Vehicle**: 1992
- **Private LDC**: 1996
- **1st Gas Export**: 2003
- **1st FSRU Tender**: 2012
- **1st LNG import**: 2015
- **Gas Regulator**: 2017
Historical and Forecast Gas Production (by area)
The Largest gas discovery in the Mediterranean.

One of the largest gas discoveries in The World.

30+ TCF of GAS in place

1.5km water depth, 100 km² acreage, 220km from shore

Significant potential in adjacent Blocks
A 500 mmcfd capacity Floating Storage and Regasification Unit (FSRU) was installed at the Port of Sokhna on the Red Sea and multi-year deals have been concluded with LNG sellers.

A second FSRU, with a capacity of 750 mmcfd, was commissioned in November 2015 alongside the first at Sokhna.

In August 2015, Eni announced the Zohr discovery, a new play opening find with an estimated 21.5tcf of recoverable gas reserves. With a fast track development planned, Zohr will help to reduce the need for costlier LNG imports. This new source of gas will help Egypt to lower its cost of supply and, if followed by further discoveries, could see Egypt return to a period of energy self sufficiency.

Due to the ongoing energy shortage, Egypt began importing LNG in 2015.

Source: Woodmac – Seek Permission, OIES
Egypt as the new Energy Hub in the Mediterranean

- Major recent huge gas discoveries (Zohr)
- Oil & Gas infrastructure (LNG Facilities, Pipelines)
- Centered looking in the middle of resource-rich countries and major energy consumers, as well as availability of major Int. Maritime Trade lines.
Falling domestic production with greater than anticipated demand led to costly fuel and power shortages in Egypt.

Rapidly deployed FSRUs import LNG until new fields were in production.

This allowed $457mn steel to be exported, using idle capacity, keeping the lights on with significant financial and environmental saving vs alternative fuels.
Gas Value Chain in Egypt

Gas Grid

Gas Delivery

Local Distribution

Gas Usages

Power

Fertilizers

Industry

CNG

Domestic
Egypt consumption of Natural gas is increasing by higher rate than worldwide consumption Despite the drop of production in the last four years, turning Egypt from being a gas exporter to gas importer With the new discovery of Zohr, net gas imports are expected to be covered by local production.

Going forward, Egypt will witness a growth in natural gas production from “supergiant” Zohr. Producing currently 0.349 BCF per day, to reach 1 BCF per day in June and 2.7 BCF by end of 2019. Additionally importation through gas el sharq will start beginning of 2019.
Natural Gas Consumption in numbers (till June 2018)

- 58 Power Generation plants
- 14 Local Distribution companies
- More than 2,491 Industrial Consumer
- 415 brick kilns
- 8.8 Million Residential Customer
- More than 18,776 Commercial customer
- 7486 Bakeries
- 243,688 vehicles converted to CNG
- More than 70 conversion centers
- 187 CNG stations

Source: EGAS annual report 2018
Gas to end users

Residential
- Apartments
- Houses
- Villas

Commercial
- Hospitals
- Schools and Universities
- Offices
- Restaurants
- Bakeries etc.

Industrial
- Factories
  - Medium
    - Chemical
    - Paint
    - Textile
    - Food
  - Heavy
    - Steel
    - Cement
    - Fertilizer

Fuels substitution & conversion

Water heating  Space heating
Cooking  Steam Generation
Furnaces  Manufacturing Process Heat
Refrigeration  Gas-fired Air-conditioning

Natural gas will replace:
- **Diesel** for water and central heating
- **LPG** for heating and cooking
- **Fuel oil and diesel** for industrial applications
- **Gasoline** in cars
Development of the Egyptian Gas Distribution Sector

Total expected connected units by December 2018: 9.9 million Units

- 20 Yrs 1 MM Units
- 10 yrs 2.8 MM units
- 4 Years 2.4 MM Units
- 54 months 4 ½ years 3.7 MM Units

June 2018 / December 2018

July 2017 / June 2018

Annual average

Annual average

Expected
Gas Distribution – Deregulation Development

The Main National Grid / Trunk line is constructed & Operated by GASCO (on behalf of EGAS)
Everything downstream of the Pressure Reduction Station is within the cost of the LDC connection rate. Payments made “per converted customer”
Development of the Egyptian Gas Distribution Sector

From ONE state monopoly ...

... to 9 private sectors & 5 state-owned LDCs/EPCs

- 8.8 Million customers connected
- Over 1 bn $ of Foreign & Local investment
- 16 Egyptian Governorates covered by Gas networks
- 600 MM $ /Year Saved in subsidies
- Enhanced HSE Standards
- Introducing new technologies
- Attracting the Multi-Nationals
- Social Investment – Jobs/Employment - Environmental
- Provide a better quality of life for Egypt’s citizens
Compressed Natural Gas “CNG” Business Model

- Well developed gas grid;
- The end consumer price and margin are regulated;
- Conversion is undertaken only by the CNG companies;
- Local codes in place governing all technical and HSE aspects;
- Conversion loans were offered through CNG companies till mid. 2003, now through commercial banks;
- The Government is the sole supplier of the gas, and the sole owner of the supply grid nationwide.
Deregulation Development – Egypt’s CNG Market

Phase I
1992 - 1996
Pilot Project
2 Pilot Projects
With the assistance
Of 2 IOCs

Phase II
1996 - 2002
National Project
Monopoly
2 State-Owned
(JV with IOCs)

Phase III
2002 - now
Expansion
4 Private
“NGVs”
(Local & Int.)
Market based Incentives: CNG Smart Card

**Mechanism**

Financing 100% of cost of conversion through commercial lending on a debit card to be presented at fueling stations by converted vehicles’ drivers

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*Increase*

**No. of Vehicles Converted**
Gas Sector Governance

The Egyptian Government has approved a new Gas Law.

- The new Gas Law, paves the way for a substantial reform of the gas sector.
- The law mandates the creation of a new independent gas regulator.
- Offering an opportunity to the private sector to enter and compete in wholesale downstream market segments, the existing shadow regulator finalized the gas transmission codes, gas transmission tariff, which will be published soon.
Lessons from Egypt - Making it work

Supply and infrastructure

- Role of private sector
  - Full involvement of investors & distribution companies
    - Capital intensive industry
    - Slow but steady returns
    - Involvement in the whole supply chain
    - Consumer education

- Support from international institutions
  - Commitment from international institutions
    - Financing collective infrastructures
    - Support for micro-credits
    - Exchange of good practices

Regulations

- developing adequate framework using experience from well established and structured market
- opting for a cylinder deposit system
- banning cross-filling
- establishing a licensing system
Access for poorer classes and implication of taxes

- developing an efficient network
- financing solutions such as micro-credit
- eliminate taxation of LPG and cylinders (import duties and VAT)
- harmonizing the tax system (in case partial taxation is maintained)

Support from governments

- Stability of the political and legal systems
- Rules governing trade and investment
- Regulations concerning industry operating and safety standards
- Involvement in fair tax / duty treatment

Awareness & Consumer’s Adherence

Openness to change

- education campaigns
  (schools, associations, role of village heads)
  - safety
  - applications
- advertising campaigns by marketers
Policy enablers, blockers and opportunities

Enablers
- Strong multilateral support, FDI
- Subsidy regime (initially)
- Clear cost recovery model for LDCs
- Free trade zones

Blockers
- Cost recovery mechanism for upstream, power sector
- Subsidy regime (later)
- Regulatory environment
- Customer payback
- Security of supply for large industry
- Connection fees
- Monopsony buyer

Opportunities
- Regional gas hub
- Modernisation programme (subsidy phase out)
- Regulatory reforms and capacity building (direct sales)
- Efficiency opportunities
THANK YOU

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