

# GAS PRICING IN EGYPT: OBJECTIVES AND MILESTONES

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The natural gas market in Egypt has functioned under the authority of the Egyptian Natural Gas Holding Company (EGAS) - a wholly-owned subsidiary of the Egyptian General Petroleum Company (EGPC) - since 2001. EGAS was established to manage and control natural gas development and is currently in charge of active exploration concessions in Egypt in collaboration with international oil companies (IOCs).

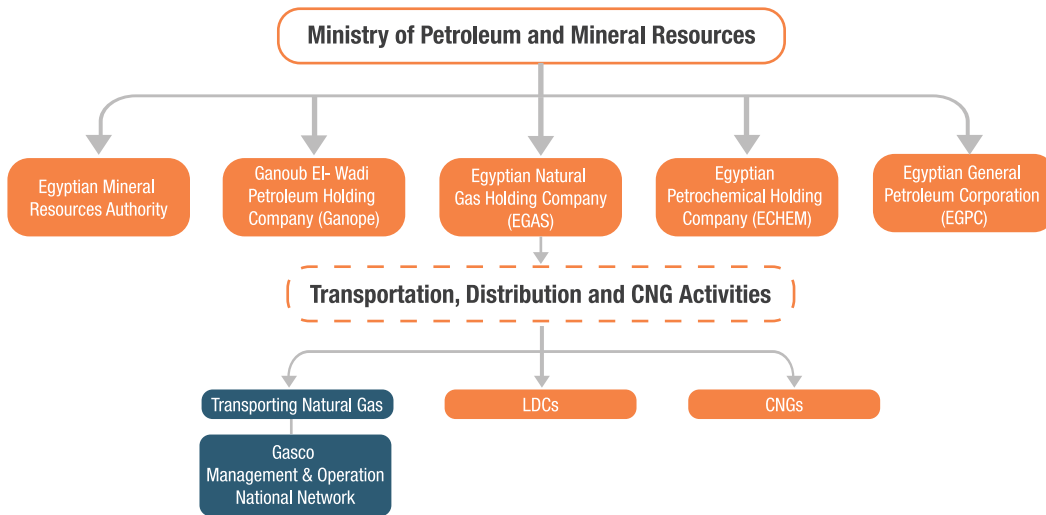
In August 2017, a new gas law on midstream and downstream gas market activities was announced. It aims to fully liberalize the market by 2022. Six months later, the executive regulations were issued, enabling private sector companies to procure their gas supplies as well as shipping, transportation, storing and trading natural gas using the national grid. All of these activities are done under the supervision of the Gas Market Regulatory Authority (GMRA).

Gas market liberalization is an important step towards increasing gas supply to the domestic market, in addition to relieving the financial burden on state-owned companies. It means that EGAS will no longer be the only national gas supplier.

## GAS PRICING

Most gas markets around the world sit between two extremes regarding gas pricing. The chart below classifies gas-market systems in the world into four groups.

## GAS SECTOR ORGANIZATION

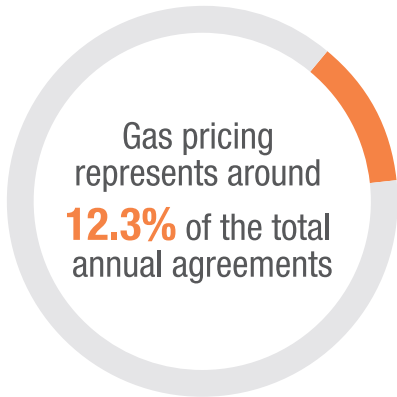


## GAS MARKET SYSTEMS





The natural gas pricing in petroleum agreements started in **1993**



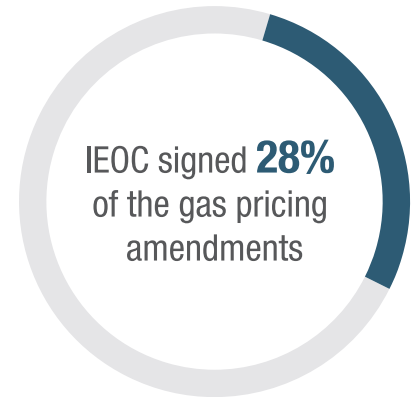
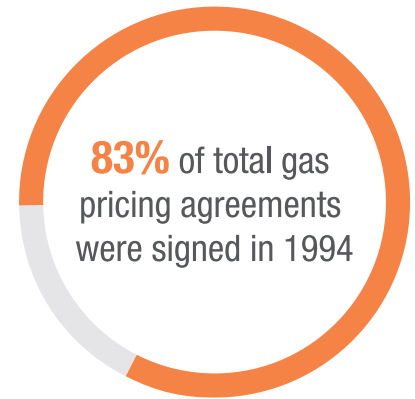
Egypt is considered one of the regulated markets where the gas pricing equations are nationally set; these equations differ according to the economic situation. According to a paper published by the Egyptian Center for Economic Studies in 1998, a gas-pricing policy for Egypt should correspond with a number of objectives. First, it should encourage exploration and development (E&P) activities by foreign companies that provide the upstream sector with many investment opportunities. Secondly, it should provide stable prices domestically both for households and businesses. Thirdly, the gas price differences - taking into consideration the opportunity for exports and domestic - must yield a rent for the government as well.

Petroleum agreements in Egypt have undergone many changes, including amendments to the gas pricing method. Prior to 1993, gas prices were based on the international prices of normal sulfur mazut, in addition to a 15% discount rate for EGPC. Natural gas pricing in petroleum agreements started in 1993. Since then, gas pricing represented around 12.3% of the total annual exploration agreements.

**FROM MAZUT TO GULF OF SUEZ CRUDE**

To develop the natural gas sector and increase its output, the state moved toward applying a different pricing method. After screening the alternatives, EGPC decided to link gas prices to Gulf of Suez crude prices instead of mazut. This amendment encouraged IOCs to invest in natural gas E&P activities, which led to large discoveries in the Nile Delta and the Mediterranean Sea during the 1990s.

Shell was the first company to sign a gas pricing agreement, as it signed an agreement over El Obayed concession. Between 1993 and 2000, 18 gas pricing agreements were signed, 28% of were signed with the Italian Egyptian Oil Company (IEOC). It is worth noting that 83% of the gas pricing agreements during this phase were signed in 1994.



**GAS PRICING AMENDMENTS: JULY 2000**

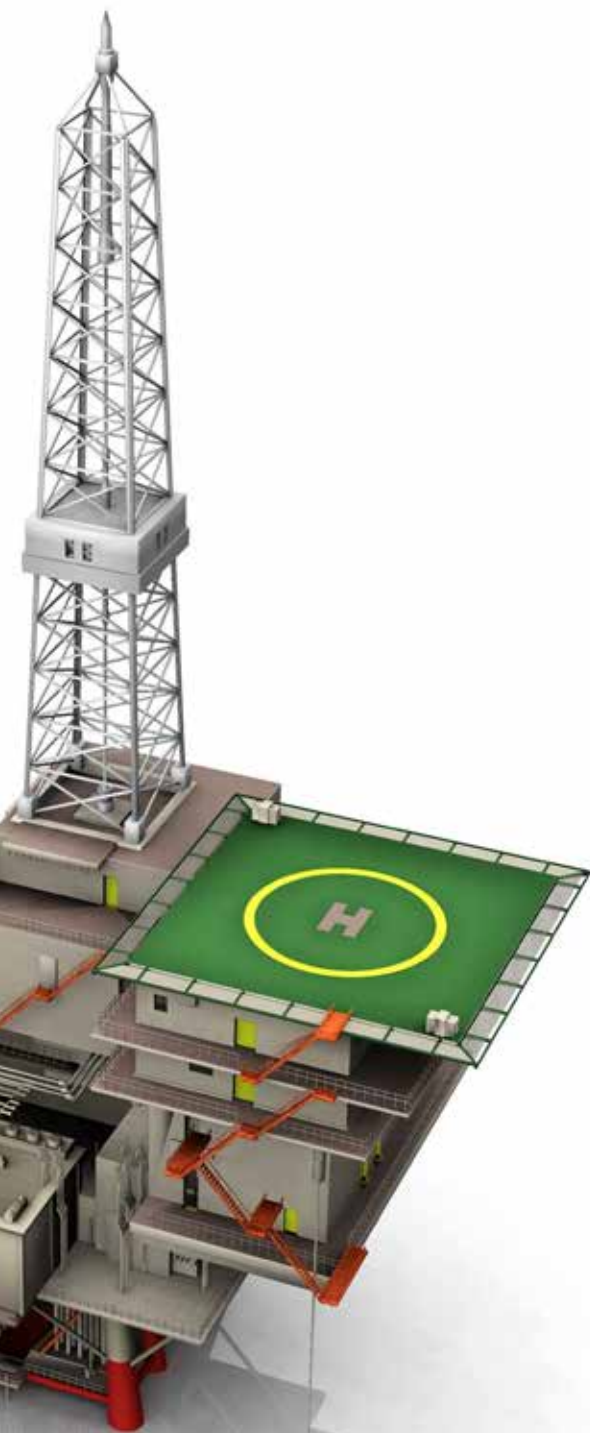
In July 2000, the government agreed with IOCs to amend gas prices within agreements retroactively. This included raising the price of gas for foreign companies to reach a maximum of \$2.65 per million British thermal units (mBtu) at a Brent price of \$22 per barrel or more, and a minimum of \$1.50/mBtu at a Brent price of \$10 per barrel.

Between 2000 and 2010, gas prices were changed 29 times according to the fluctuating price of oil. Prices changed 10 times in 2001 alone. Five IOCs complied with the amendments during this period: IEOC, BP, Shell, BG, Amoco and RWE. The below chart shows the percentages of amendments agreed upon by each company. IEOC witnessed the highest number of price changes, representing 38% of amendments over the period.



Gas pricing amendments reached **29**

By setting a ceiling and a floor for gas prices, these amendments were a cornerstone in enabling the export of natural gas. Prior to 2000, it was not possible to sign any contract for gas exports without an accurate estimation for the cost of buying the gas from the foreign partner during the twenty years that follow signing the contract. These amendments included a ceiling price in line with prices agreed upon for exporting gas. The opportunity of gas exporting contributed positively to the rapid development of gas fields and doubling the production as well.



**Shell** was the first company to sign a gas pricing agreement



**18** gas pricing agreements were signed from 1993-2000



2001 witnessed the highest number with

10 gas pricing amendments



According to a 2008 study conducted by Al-Ahram Center for Petroleum and Energy Studies on the Egyptian natural gas exports, Egypt has strongly entered the field of exporting natural gas. The export of gas began in July 2003 to Jordan, the first phase of the Arab gas pipeline which extends to Lebanon via Syria, Turkey and Spain. In 2005, liquefied natural gas (LNG) was first exported from the liquefaction plants established on the Mediterranean Sea.



## Gas production increased to 37 mt in 2006

The decision to export gas increased the foreign investments in the field of research and exploration inside Egypt. Gas production increased to 37 million tons in 2006. The amendment also resulted in overcoming the shortage in crude oil production in 2002. Moreover, it helped in substituting the petroleum products and reduced butane imports.

### NORTH ALEXANDRIA AND WEST MEDITERRANEAN AMENDMENTS

The richest natural gas fields are commonly found in deep waters, which are considered an excellent opportunity for the country to maintain the desired natural gas levels. However, due to the characteristics of such concessions, including high pressure level and high temperature, they are considered unattractive to IOCs as they need intensive investments to apply the needed advanced technologies.

These concessions include the large concessions such as the North Alexandria and the West Mediterranean. To encourage the IOCs to invest in such areas, the ministry changed the agreement model for those two concessions in 2010. The investments needed to develop the two concessions were approximately \$9 million, in addition to the investments needed to develop the discovered reserves in order to meet local demand and achieve suitable revenues.

According to the amendments made to the agreements, IOCs cover all the needed investments and take on the cost recovery risk, before delivering all production to EGPC for a specific price. The price is determined according to the price equation for the average price of Brent crude, the Henry Hub natural gas prices, and UK natural gas NBP prices with a minimum of \$3 per mBtu and a maximum of \$4.1 per mBtu.

Since the 1990s, key changes have taken place in the natural gas sector. Egyptian petroleum agreements have gone through several gas pricing amendments in favor of opening up the country's gas resources to the foreign market, as well as satisfying domestic demand. It is worth mentioning that the ministry's main objective has been to achieve a balanced gas market. However, meeting the need of the domestic gas market is also one of the government's main priorities.

