



Western Desert Gas Complex





The Egyptian Natural Gas Company's profile

GASCO

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The Egyptian natural gas company (GASCO) was established on 17th March 1997 in accordance with the provisions of the Law of investment number 230 for the year 1989, which was amended by law number 72 for the year 2017, and started the operation of transmitting, distributing, supply, processing and manufacture of natural gas on that date

The Company's vision

Gasco looks forward to being a pioneer as a regional operator to Gas transmission and transportation system and natural gas derivatives separation plants, as well as taking the advantage of the hydrogen techniques, also capturing and using Carbon dioxide, which enhances Egypt's vision as a power regional center.

The Company's mission

- Managing, operating and developing of the gas transmission and distribution system from the local & regional entry points to secure the local supply and export.
- Establishing integrated projects for the natural Gas Pipelines Grids & their facilities.
- Managing, operating and developing of natural gas derivatives extraction plants.
- Supplying the Petrochemical plants with the raw materials needed for industry.
- Utilizing the sustainable solutions through the integrated strategy of Hydrogen and Carbon Dioxide in The company businesses driving the transition towards a decarbonized economy.



The Western Desert Gas Complex

GASCO contributes to supporting the national economy by its leading role in the fields of transportation, distribution and processing of natural gas and separation of its derivatives, Where the company was founded in the year 1997 for the management, operation and maintenance of The National Natural Gas Grid, With the company's first beginnings, preliminary studies were undertaken to establish a Western Desert gas complex to maximize the utilization of Western Desert field gases (Elobayed, Tarek, Salam), adding natural gas processing activity by extracting compounds with high economic value, the location of the Western Desert Gas Complex in the General Petroleum Region in Amereya has been selected get benefit from all existing petroleum services in supporting the integrative thinking among the sector's companies, in addition to supporting the Egyptian petrochemical industry with ethane/propane mixture gas & pushing it to SIDBEC to produce ethylene and polyethylene, in addition, SIDBEK has pushed a portion of the ethylene produced to the Egyptian Petrochemical Company for the production of PVC to achieve economic integration between petroleum sector companies and reduce the import of these products, The Western Desert Gas Complex also contributes to supporting the Egyptian economy by providing the Butagas product of strategic importance to the domestic market as well as producing and exporting commercial propane to provide hard currency. The gas complex was designed and implemented according to the latest technologies in terms of operating circuits and rotary equipment as well as maximizing the utilization of cooling energy by optimizing the use of heat exchangers to reduce temperature to the lowest possible level of extraction to produce the largest quantity of products, and the actual operation of the complex began in March 2000.

Designing power

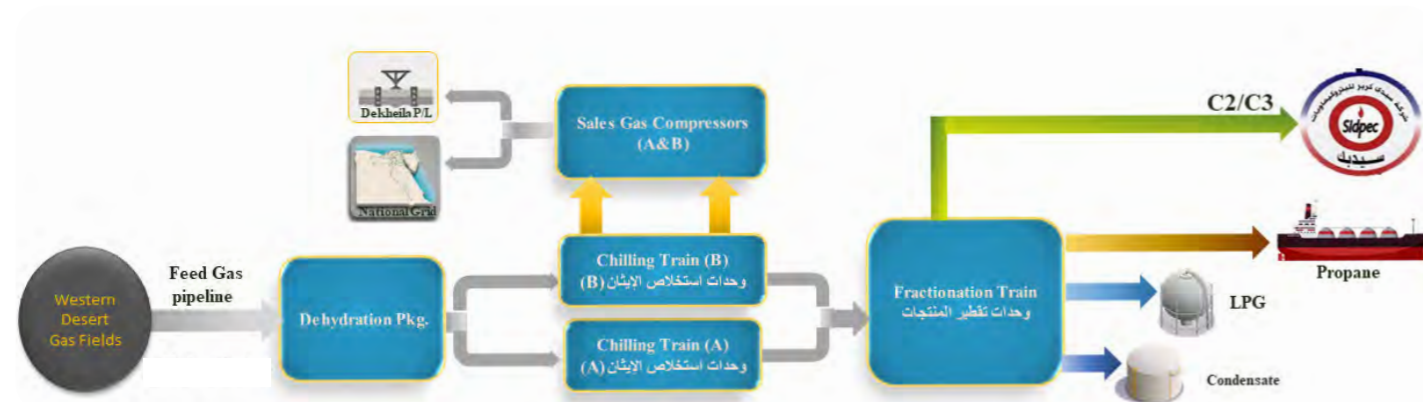
Gasco laid the foundation stone of the complex in December 1997 and the implementation of the project was assigned to the sister companies (Enppi /Petrojet), the gas complex processes Western Desert gases, which are transferred to Badraddin's assembly station.

The Western Desert gas complex was designed with a feeding rate of 550 million cubic feet/day of Western Desert gases prior to the operation of the ethane/propane maximization project, that to produce:

- Ethane/propane mixture to be supplied to petrochemical companies
- Butagas is supplied to the local market.
- Commercial propane is exported
- Condensers are supplied to petroleum refineries

Quantities produced:

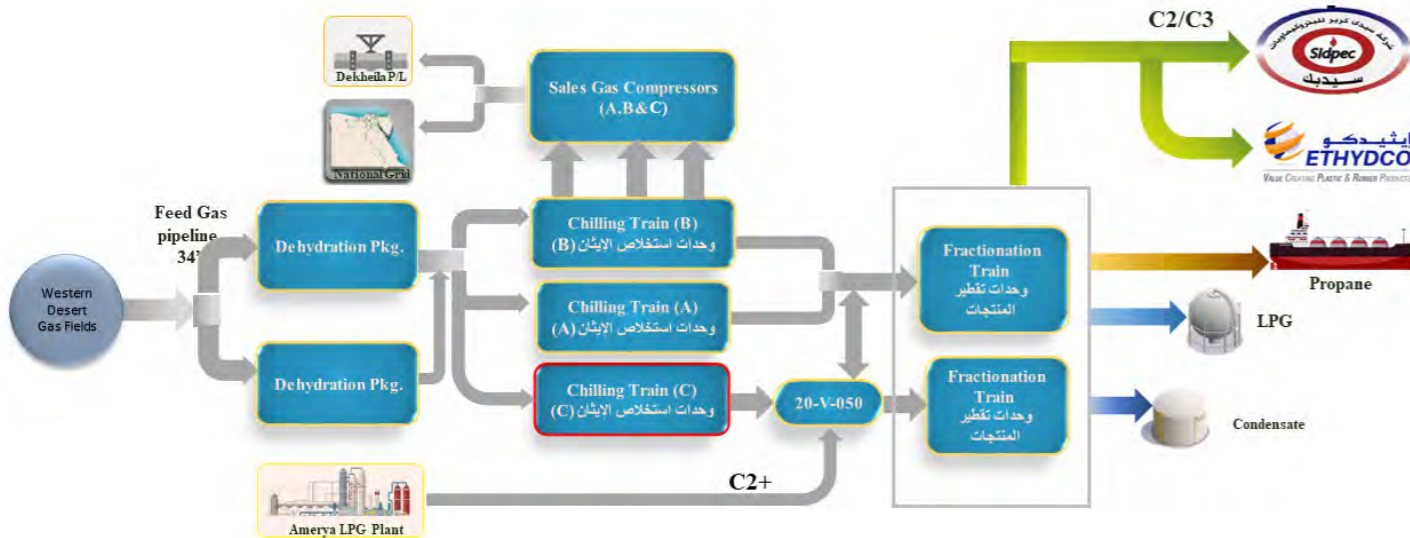
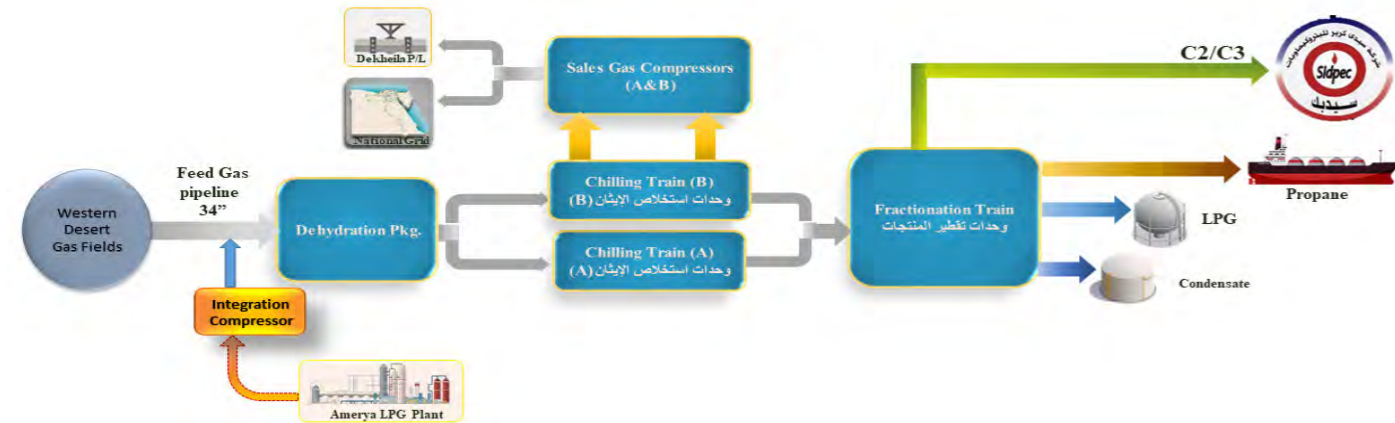
The total products of the Western Desert Gas Complex from the beginning of operation in March 2000 to December 2023... 32.2 million tons.



Stages of development and optimization of the use of feeding gases

In order to achieve the company's objectives of maximizing the use of feeding gases for its gas plant facilities, the technical departments conducted several technical studies in coordination and cooperation with the various departments of the company in the implementation of several stages of development and modernization of operating systems aimed at increasing the efficiency of the complex, increasing the operational flexibility and increasing the extraction ratios of the products, this helps meet the growing need for "butagas" and maximizes the production of "ethane/propane mixture" needed to feed SIDBEC and THEDCO plants.

One of the most important stages of development with Western Desert's gas complex facilities is the following:

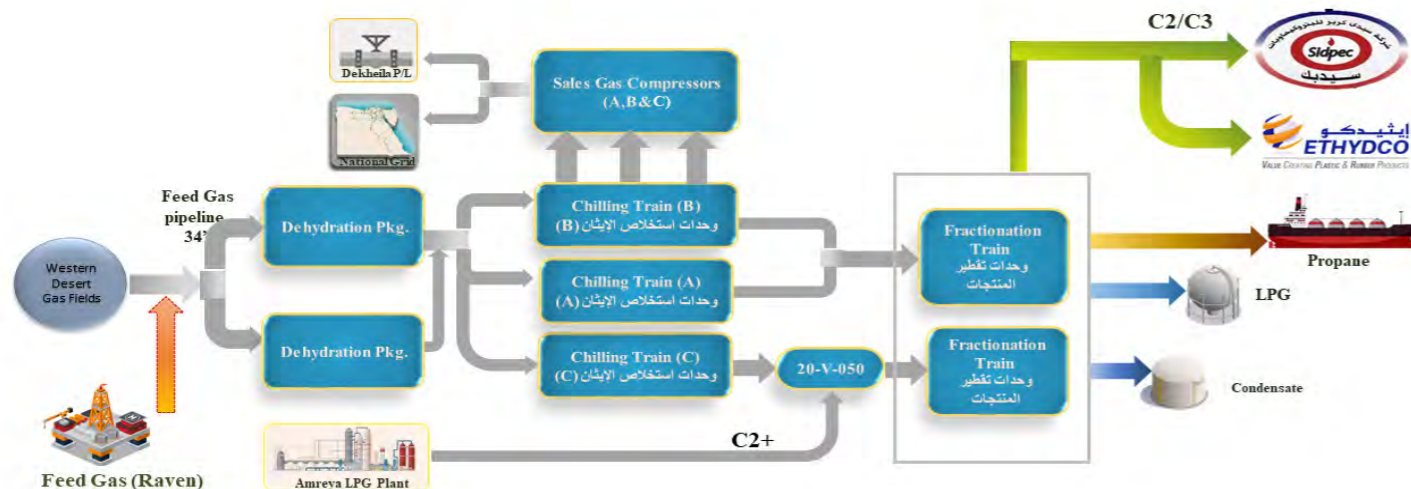
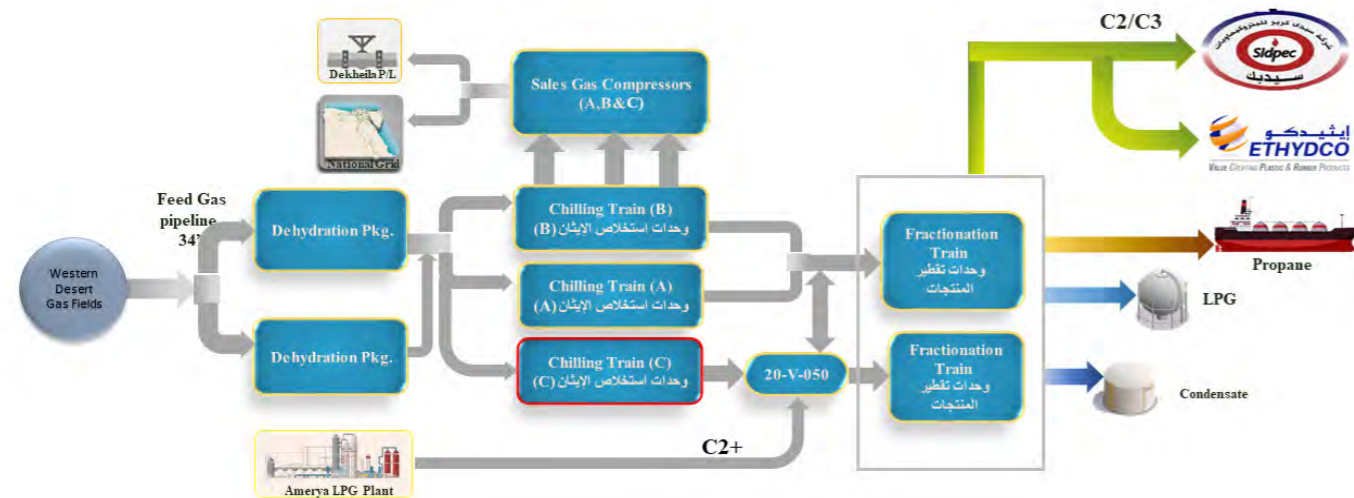


1- 2005 (Integration Line with LPG Plant)

In 2005, GASCO implemented a project to connect LPG & WDGC through establishing a pipeline with 13 KM length & 12 Inch diameter to connect between them aiming to optimize the utilization of the produced gases from the top of the Propane separation tower in LPG which are rich in Ethane/Propane mixture which was used as a fuel gas even in plant or in the iron & steel company in Alexandria & pushing it to WDGC to be used in producing extra amounts of the mixture.

2- 2010 Maximizing the extraction of ethane unit C

The project of maximize the production of ethane/propane mixture aims to increase extraction ratios and accommodate larger amounts of feeding gases to reach the total energy of the complex after the project to 900 million cubic feet/day, this is by adding new facilities in both the WDGC and LPG Plants, which increases the quantities of products in the complex.



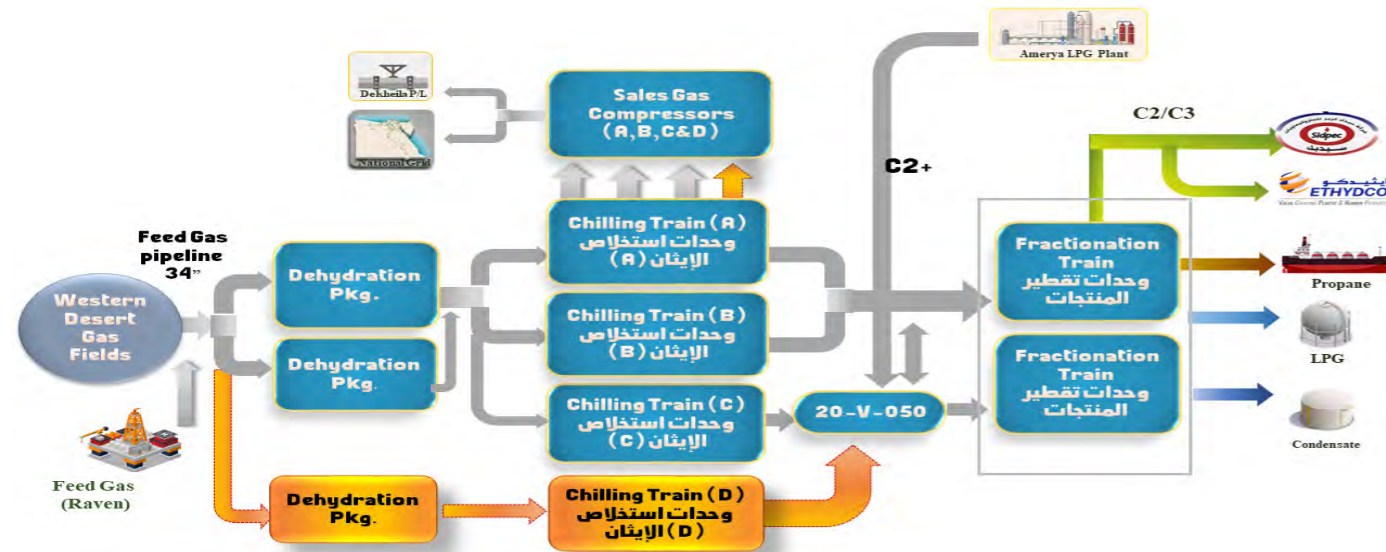
3- 2016 Increase Ethane extraction ratios in unit (C) by adding a new separation receptacle

From the overall perspective of development and improvement in the production process, the technical departments have undertaken preliminary studies to raise the efficiency of product extraction relatively, in order to keep pace with changes in feeding gas components by adding a new separation receptacle to improve the separation of liquids produced in the refrigeration process (C) before entering the De-Methanize Tower, the company has therefore assigned detailed study and execution work to both Enppi and Petrojet companies

The project was implemented in 2016 to improve relatively efficient product extraction.

4- 2021 Refein field entry

New facilities have been established to receive Refine field gases (Phase I) to receive 300 feet Cube/day, which comes under low feeding gases from Western Desert fields, within the framework of the company management's keenness to ensure the operational process and the implementation of production plans designed to meet the company's contractual obligations to the sister companies, operational experiments began in May 2021.



5- 2024 Fourth Ethane Extraction Unit D

In the light of the ongoing development of the complex, the company took the executive steps of the stage Extraction (D) with a capacity of 600 million cubic feet/day by using modern extraction equipment and technologies to become the total capacity of the complex after the project to 1,500 million cubic feet/day>

This increases the quantities of ethane/propane mixture produced pushed to SIDBEC and ETHDCO, as well as the production of Butagas, condensers and commercial propane production in the event of the availability of feeding gases for the complex, as the project is expected to be completed during the second half of 2024 and operational experiments commenced.

Role of the Western Desert Gas Complex in maintaining safety and quality

The Western Desert Gas Complex is equipped with the latest global systems in the field of occupational safety, health and environmental protection, which ensure the preservation of the environment, operational safety and occupational health of workers, the torch system is designed to ensure full burning Smokeless Flare, and the industrial drainage system according to international specifications. The complex is committed to the application of global standards of quality and optimization of resources and various possibilities for achieving goals and competitiveness.

So the complex got these certificates

- **ISO 45001:** The management of the complex has been qualified in accordance with the international standards levels of assessment of safety management systems by identifying and evaluating risks and establishing control tools to manage them, as well as incident analysis and lessons learned.
- **ISO 45001:** It is the certification of the quality of the environmental management system
- **ISO 45001:** This is a quality management certificate.
- **ISO 45001:** This is the certification of the Energy Rationalization Management System
- **ISO 45001:** It is the certificate for the efficient performance of the test and calibration coefficient





Exit 12 From Ring Road, 90 st.,
5th Settlement - New Cairo - EGYPT

+202 25384500 /1/2/3
fax: +202 25384505/6
p.o.box:115 al andalus
www.gasco.com.eg

