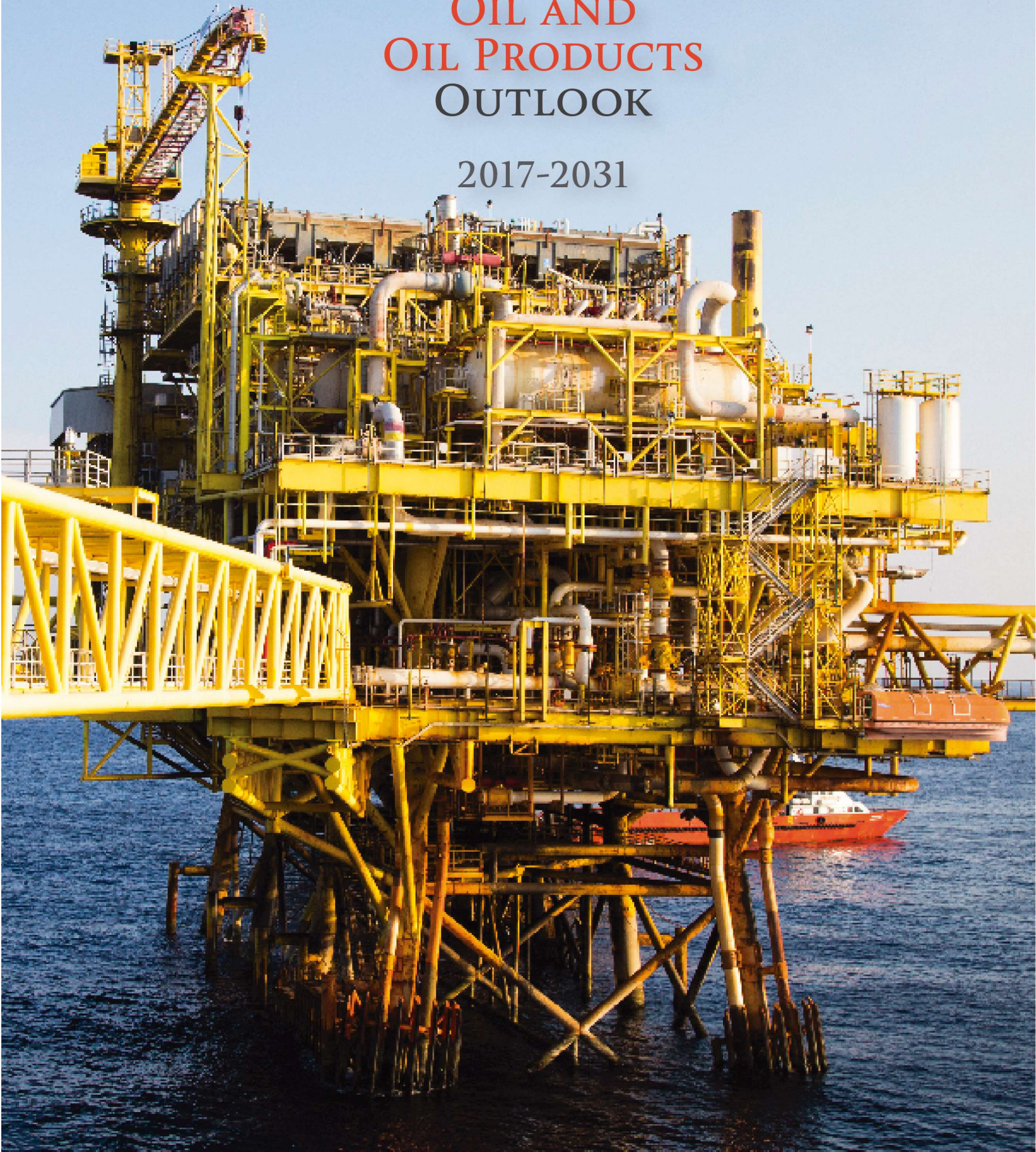


OIL AND OIL PRODUCTS OUTLOOK

2017-2031



CRUDE OIL AND OIL-PRODUCTS OUTLOOK

2017-2031



SENER

SECRETARÍA DE ENERGÍA

MEXICO, 2017

SECRETARIAT OF ENERGY

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PRESENTATION

Mexico has undergone its farthest-reaching transformation of the last decades after the approval of the Energy Reform in 2013. The country is going through a transitional process towards a more competitive and open energy market model, which is enabling Mexico's adaptation to this sector's global challenges.

The progress and results of the implementation of the Energy Reform have required the application of new tools and mechanisms which will establish the schemes to incentivize the participation of private companies and State Productive Enterprises, under clearly defined rules and equal circumstances, in order to develop a sustainable, competitive, and efficient energy industry.

Breaking with the planning paradigm which governed the energy sector for many years was a fundamental element; a consequence of the need to adapt to the new terms and necessities that the market demands. The present document reflects the joint effort of the varied work areas to offer indicative planning elements in matters of oil and oil products.

The New Strategy for the Quinquennial Plan for the Exploration and Extraction of Hydrocarbons was presented on March 2, 2017, and which is aimed to give certainty and to foster the oil sector's activity. The new strategy takes advantage of the results obtained from assessment of 2016 execution, as well as of the experience from the call for tenders of the Rounds to adapt to the global trend, which will enable Mexico to maintain a competitiveness framework, and reactivate the production of hydrocarbons and the national economy.

Thanks to the coordination between the Secretariat of Energy and the Coordinated Regulatory Organs in Energy Matters the bases which regulate the Mexican energy market have been set, fostering optimal competitive conditions, transparency, and certainty to the existing and future participants, whether public or private, in each of the fields of the hydrocarbons production chain.

The set of advances in terms of the hydrocarbons market opening – which makes it more competitive – shows signs of certainty towards the future and are the result of the attractiveness offered by Mexico to the participants regarding the alternatives within the international market. México is the world's tenth-largest oil consuming country, with an open economy, 12 free trade agreements with 46 countries, and 33 reciprocal investment protection agreements.

INTRODUCTION

Chapter One points out the legal and regulatory framework to which the activities licensed in hydrocarbons matters are subjected. The duties and responsibilities of the Federal Public Administration agencies involved, the Coordinated Regulatory Organs, and the State Productive Enterprises are established through laws and regulations, as well as the guidelines for the participation of public and private actors which make up the hydrocarbons market.

Chapter Two presents an analysis of the domestic oil and oil products market behavior for the period 2006-2016. It details the information regarding the domestic oil demand (reserves, exploration and production activities, distribution), the National Refining System (oil processing capacity, oil products production by refinery, as well as their imports, among other).

As for the liberalization of fuels imports and commercialization, import permits for gasolines, diesel, and LP gas were granted, which allowed the gradual and orderly implementation of the flexibilization schedule for gasolines and diesel prices. This price flexibilization enables markets to move from a sole-provider model into an open and competitive scheme that allows the entrance of new competitors.

Chapter Three was elaborated through the joint efforts of the Secretariat of Energy, the National Hydrocarbons Commission, the Energy Regulatory Commission, and the Mexican Petroleum Institute, among other agencies of the sector, under the legal framework currently governing the energy sector. It reflects the results of the exercise used for the maximum and minimum scenarios for oil production for the next 15 years, as well as the blocks' allocations and assignments scheme through bidding rounds.

Regarding crude-oil refining perspectives, it displays the growth expectancies for capacity, processing, and production of oil products. The results of the planning used to define the fuels demand forecast by sector, makes figures available by oil product, federal entity, and, in some cases, by branch.

The energy sector demands an indicative planning which can provide the basis to develop the necessary infrastructure to produce oil and oil products, and thereby, identify future needs to be efficiently and timely supplied with high quality fuels. In this respect, the Oil and Oil Products Outlook 2017-2031 is devised as a reference tool for investing in new projects.



EXECUTIVE SUMMARY

Chapter One. Regulatory Framework

The new legal framework governing the exploration and extraction of hydrocarbons activities is defined by varied laws and regulations, which provide the guidelines for the participation of the public and private actors which make up the hydrocarbons market, the methodologies and rules of contract migration, strategic partnerships, and the new model for the transportation and storage of hydrocarbons.

The domestic energy model has transformed the strategic activities of the energy sector and enables the participation of State Productive Enterprises (EPE, for its Spanish acronym) and private companies on an equal footing; this demands a more efficient organization and the active participation of different regulatory agencies which, in joint coordination, serve the activities related to the hydrocarbons production chain.

Likewise, as for the regulation of the oil products activities, the Hydrocarbons Law and its regulations establish that the different activities to be carried out within the value chain require permits that establish the compliance of varied obligations of reporting and processing, so they can be properly surveilled and supervised.

The Secretariat of Energy acts as a regulator of the permits for crude oil refining and treatment, and for the import and export prior permits, supported by the foreign trade law. The Energy Regulatory Commission grants and regulates the activities associated with the transportation, storage, distribution, compression, liquefaction, decompression, regasification, commercialization, and retailing of hydrocarbons, oil products, and petrochemicals.

Chapter Two. Historical Domestic Crude Oil and Oil Products Market

To January 1st, 2017, Mexico recorded total hydrocarbons reserves (3P) of 25,858 million barrels of crude oil equivalent (MMBCOE), 1.1% less than in 2016.

During the last ten years, crude oil production has displayed a downward trend equivalent to an average annual growth rate (AAGR) of -3.8%. In 2016, the oil domestic production was of 2154.5 thousand barrels per day (MBD), 5.0% less than the previous year, equivalent to 112.3 MBD. According to their classification by location, 79.3% of crude oil is produced offshore, and 20.7% onshore. 43.8% of crude oil production was destined to domestic consumption, and the remaining 56.2% was distributed to export terminals. The volume of crude sent to export terminals increased 1.9% compared to 2015, attributable to a decrease in the light crude and ultra-light crude to export terminals, which accounted for 13.1% and 21.3%, respectively, less than the average daily export in 2015.

50% of Mexican oil exports were directed to the American market, 10% less compared to 2015, due to an increase in the extraction of non-conventional crude oil by the United States. Other export markets were Europe with 23%, and Far East with 27%.

In 2016, PEMEX TRI processed a total of 935.2 MBD of crude oil, 12.1% less regarding 2015. From the oil-products total production, 32.4% was used to obtain gasolines, 27.2% for diesel, 31.1% for fuel oil, 5.2% for jet fuel, and 3.9% for petroleum coke.

The 2016 gasoline import levels were 17.6% more than in the previous year, due to a lower production (16.2%) and to an increase in the consumption (3.7%) of this oil product. Diesel imports recorded their largest volume, 29.4% more. On the other hand, the production of petroleum coke was insufficient, so imports increased 21.92% regarding 2015.

Fuel oil was the only fuel with a share in oil-products exports in 2016, recording an average 113.3 MBD; however, it decreased 8.6% regarding 2015.

In 2016, 43.8% of the jet fuel domestic demand was supplied through imports, which accounted for a 33.4 MBD volume.

The oil-products total demand during 2016 was of 1,548.6 MBD, 2.9% more regarding 2015. The oil-products demand by sector was: 80.7% attributable to the transportation sector, 9.4% to the electricity sector, 7.9% to the industrial sector, and 2.0% corresponded to the oil sector.

Oil products imports increased 23.9% compared to 2015, as a result of the low production in the National Refining System's (SNR) refineries. The transportation sector required 1,249.5 MBD to meet their consumption needs in 2016, 3.3% more than in 2015. From this, 91.6% was destined to motor carrier, 6.1% to aerial, 1.2% to maritime, and 1.1% to rail. The consumption of gasolines and diesel grew 3.8% and 1.5%, respectively, regarding 2015.

During 2016, 73.8 MBDCOE of fuel oil, 7.6% more than in 2015. According to Airports and Ancillary Services (ASA, for its Spanish acronym), operations by type of aviation grew 4.6% regarding 2015.

Maritime transportation demanded 14.5 MBD of diesel, 4.6% less than in 2015; while the electricity sector's fossil fuels demand reached 951.9 MBDCOE, 4.3% more regarding 2015, and 20.8% regarding 2006.

The use of fuels by the electricity sector accounted for: 69.6% of natural gas and 12.9% of fuel oil, an increase by 11.5%. The fuels with the smallest share were coal, petroleum coke, and diesel, with 14.7%, 1.6%, and 1.2%, respectively.

The industrial sector increased its fuels demand 6.8%. From the total fuels demanded by this sector, the natural gas consumption grew 43.4% in the last ten years; petroleum coke increased 20.6%; and fuel oil, 46.0%.

During 2016, the oil sector's demand for oil products was focused on fuel oil and diesel, which represented, jointly, 96.9% of the total demand recorded, a decrease by 29.8% regarding 2015.

Also, during that same year, 149 wells were completed, from which 21 were exploratory wells and 128, development wells; a decrease by 52.2% regarding 2015. However, the success achieved in completing exploratory wells was 30.0%, and 90.0% in production wells.

Oil production fields amounted to a total of 404, a decrease by 6.9% regarding 2015. From this total, 53.9% corresponded to oil and associated gas, and 46.1% to non-associated gas fields.

During 2017, the following allocation processes for contractual areas were carried out:

- Round Zero: To August 13, 2017, PEMEX amounts to a total of 462 Allocations, from which 119 have rights for exploration and extraction; 271 for extraction; and 72 correspond to production fields assigned until the State put them out to tender.
- Round One: Included 54 contractual areas for hydrocarbons exploration and extraction, covering a surface of more than 29 thousand km².
- Round Two: Took into consideration discoveries that may increase the level of proven and probable reserves.
- Round Three: It is made up of 35 hydrocarbons exploration and extraction areas in shallow waters under the modality of share production. Such areas cover a total surface of 26,265 km².

Since April 1st, 2016 permits to import gasolines and diesel have been granted, thereby, third-party owned franchises can choose to import gasoline instead of depending solely on PEMEX fuel. To September 26, 2017, a total of 652 permits to import oil products were still valid, from which 345 correspond to diesel and 234 to gasolines.



Chapter Three. Oil and Oil Products Outlook, 2017-2031

To December 31st, 2016, Mexico has prospective resources by 112.8 billion barrels of crude oil equivalent (MMMBDOE), from which 53% is found in non-conventional plays.

The estimate of the crude-oil production platform in Mexico is presented in two scenarios: minimum and maximum. Both scenarios are based on an oil production platform estimated in 1,964 MBD in 2017. In the maximum scenario, the production reaches 3,252 MBD in 2031. On the other hand, the minimum scenario decreases by 9.3%, recording a volume of 1,780 MBD in 2031.

During the entire projection period, hydrocarbons production is focused on shallow marine areas. In 2017, the latter represent 81.0% in the maximum and minimum scenarios. By 2031, its share falls to 57.2% and 55.2%, respectively. Deep marine areas will be active until 2024 in the maximum scenario, and until 2027 in the minimum one. In 2031, these areas provide 31.1% and 17.8% of the production in both scenarios.

In Mexico, between 2017 and 2031, stands out the increase of the capacities for hydrodesulfurization capacities, from 1,230 MBD to 1,899.9 MBD; and for coking, from 155.8 MBD to 431.6 MBD. This new capacity¹ of 275 MBD by 2026 could be achieved in some of the various refineries part of the SNR. The increase expected in crude processing is of 79.6% for the period 2017-2031.

By the end of the analyzed period, Tula reports the highest yield in gasolines production, seconded by Minatitlan and Salina Cruz. For diesel, Cadereyta will have the highest yield, followed by Salamanca and Madero. As for jet fuel, Salamanca and Tula will have the highest yield. Minatitlan will report the highest yield of fuel oil, seconded by Salina Cruz, Madero, and Cadereyta; the rest of the SNR will not produce fuel oil.

The growth expectancy for oil products production is 4.2% average annual for the next 15 years, reaching 1,320.3 MBDOE in 2031. Regarding the existing refineries, Madero will have the largest increase in its production, seconded by Salina Cruz and Minatitlan.

During 2017-2031, the jet-fuel domestic demand and production will display an average annual growth rate by 3.02%. As for the production of petroleum coke during 2017-2023, it will not satisfy the domestic demand. Starting in 2023, the new reconfigurations in Tula, Salamanca, and Salina Cruz into deep conversion refineries will lead to a better use of residuals, in such way that, from 2023 to 2031, the production of petroleum coke will exceed its consumption needs, resulting in a fuel oil trade surplus.

During the projected period, gasolines will remain as the most consumed fuel in the motor-carrier segment. It is estimated that the demand of automotive gasolines will raise by 21.3%, which is explained by the expected growth of the gasoline-powered vehicle fleet by 8.4%. Diesel domestic demand for motor carrier will increase by 41.9% during the period, due to the rise in the diesel-intensive vehicle fleet.

Within the industrial sector, natural gas is the most demanded fuel, whose average growth rate is estimated in 2.0% for the next 15 years. Fuel oil high emissions, along with its usage restriction and the advantages of natural gas over fuel oil, indicates a high probability that, in the short term, the industrial sector will totally replace fuel oil with natural gas.

During all the estimated period, gasoline imports will account for 30.8%, average, of the domestic demand. As for diesel, its imports will fall to 32.5 MBD in 2031.

¹ The concept of "new capacity" refers to the possibility of carrying out updating projects in the refineries which are currently part of the SNR.

CHAPTER ONE. REGULATORY FRAMEWORK

The new national energy model has fostered the transformation of every strategic activity of the energy sector to lead the hydrocarbons industry to a more efficient, competitive, and reliable direction, including the participation of State Productive Enterprises (EPE, for its Spanish acronym) and private companies on an equal footing, and under the principles of open access and effective competitiveness. All of this, to carry out the activities of exploitation, exploration, refining, transportation, storage, distribution, commercialization, and retailing in an efficient way, to ensure the reliable and secure supply of hydrocarbons throughout the national territory.

This chapter describes the current regulatory framework for the domestic oil industry. It mentions the constitutional guidelines and the legal instruments to regulate the licensed activities in hydrocarbons matters. In addition, it presents the role of the State through its agencies and state-owned enterprises in hydrocarbons matters.

It introduces the new industrial model of the hydrocarbons sector and the operation of the energy sector, along with its regulatory agencies which, in joint coordination regulate all the activities derived from the fuels production chain, from its primary extraction up to the final user.

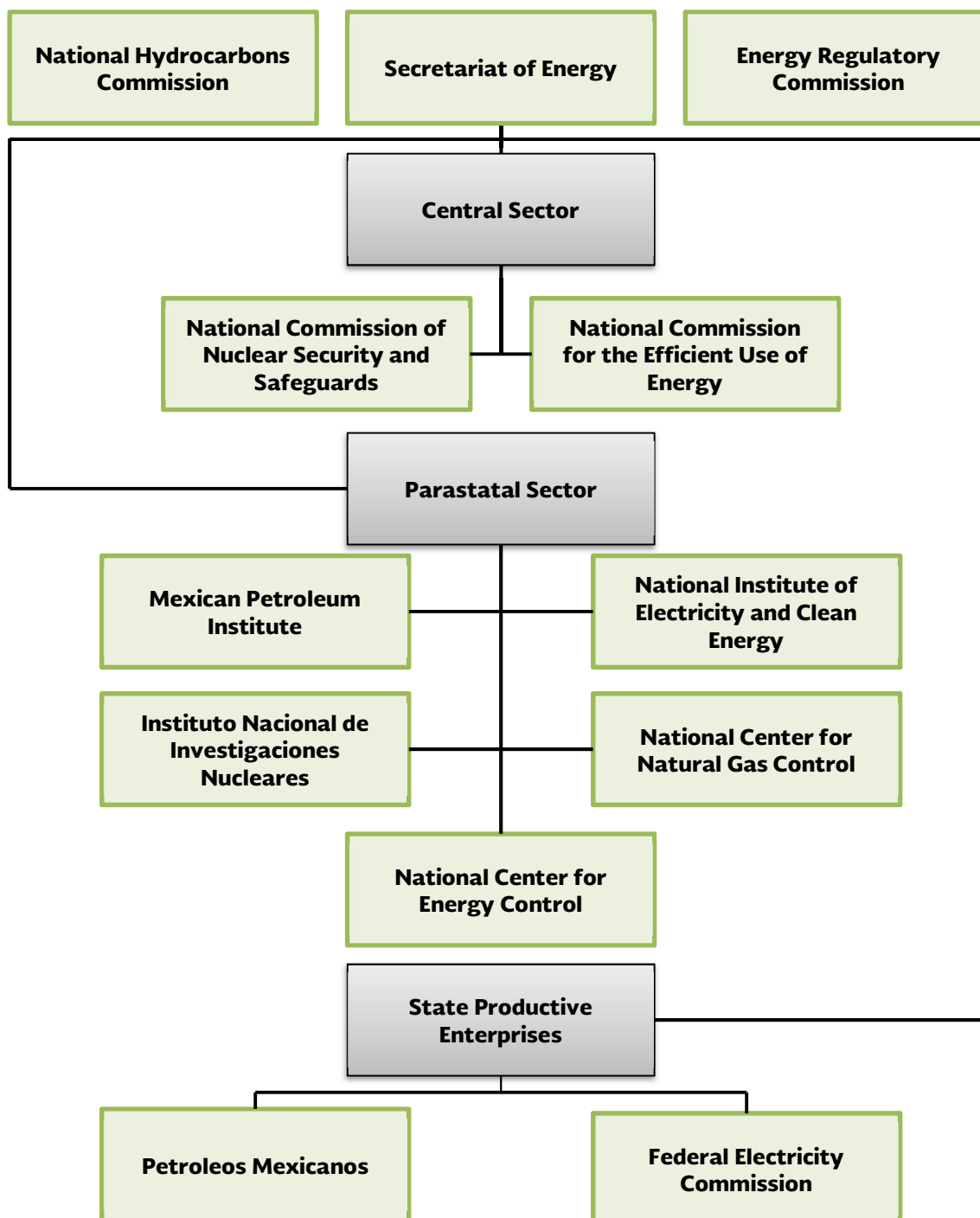
This chapter describes the new legal framework where the activities of hydrocarbons exploration and extraction operate, and which is defined by diverse laws and regulations providing the guidelines for the participation of the public and private actors of the hydrocarbons market. Round Zero, Round One, and Round Two were carried out based on this; as well as the provisions, methodologies, and regulations for contract migration, PEMEX strategic partnerships (Farmouts), and the import of gasolines, diesel, and jet fuel.

It presents the new model for the transportation and storage of hydrocarbons through the Project of Public Policy on Minimum Stocks of Oil Products, the regularization and methodology to ensure the reliable supply of oil products. Additional to the new regulation model, it also displays the model adopted for the pricing and commercialization of oil products.



1.1 Legal Framework in Hydrocarbons Matter

FIGURE 1. 1 ENERGY REFORM STRUCTURE OF THE ENERGY SECTOR



Source: IMP, SENER's 5th Work Report 2016-2017.

The constitutional reform brought about a legal and regulatory framework that includes the participation of State Secretariats, deconcentrated bodies, decentralized agencies, autonomous bodies, as well as the Coordinated Regulatory Organs in Energy Matters, and the State Productive Enterprises², among which the following should be mentioned:

Secretariat of Energy (SENER): Is in charge of the country's energy policy, within the current constitutional framework, in order to ensure the competitive, sufficient, high-quality, affordable, and environmentally sustainable supply of fuels required for the development of the national life.

National Hydrocarbons Commission (CNH): Regulates the exploration and extraction of hydrocarbons in an efficient and reliable manner to foster investment and economic growth in Mexico.

Through the CNH, the Federal Executive exercises its faculties to regulate and supervise the compliance of assignees, contractors, and authorized parties within the scope of its competence, and specifically in the following activities:

- I. Reconnaissance and surface exploration, including criteria of confidentiality and right of the commercial use of the information obtained from them.
- II. Gathering, backup, use, management, and updating, as well as, if the case, the publishing of the information referred to in article 32 of the Hydrocarbons Law (LH, for its Spanish acronym), through the National Hydrocarbons Information Center.
- III. Hydrocarbons exploration and extraction – including devising the plans to issue the verdict referred to in article 44 of the LH3 – as well as abandonment and dismantling.
- IV. Hydrocarbons wells drilling and gathering.
- V. Quantification of reserves and prospective and contingent resources.
- VI. Certification of the Nation's Reserves by independent third parties, and their selection process.
- VII. Measurement of the hydrocarbons production, taking into account the installation and verification of the measurement systems in accordance to international standards which would be audited by third parties recognized worldwide.
- VIII. Use of the associated natural gas.
- IX. Technical and operation standards to maximize the hydrocarbons recovery factor.
- X. Information requirements for the regulated parties, and the guidelines for transferring, receiving, using, and publishing of the information received.

Energy Regulatory Commission (CRE): Fosters the efficient development of the industry, promotes competitiveness within the sector, protects the interests of users, provides an appropriate national coverage, and look after the reliability, stability, and safety of the supply and service provision.

In addition to the responsibilities bestowed by the Law of Hydrocarbons (LH) and the Electric Industry Law (LIE, for its Spanish acronym), the CRE should, among other, regulate and promote the efficient development of the activities provided for in Article 41 of the Law of the Coordinated Regulatory Organs in Energy Matters (LORCME, for its Spanish acronym), namely:

² Organic Law of the Federal Public Administration

³ Article 44 of the Hydrocarbons Law.



- I. Activities for the transportation, storage, distribution, compression, liquefaction, regasification, and retailing of oil, natural gas, liquefied petroleum gas, oil products, and petrochemicals.
- II. The transportation through pipelines, storage, distribution, and retailing of biofuels.
- III. Electricity generation, public utilities for electricity distribution and transmission, non-public utilities for electricity transmission and distribution, and electricity trading.

National Commission of Nuclear Security and Safeguards (CNSNS): Regulates nuclear, radiological, and physical security, and the safeguards for the use of nuclear energy to protect the health of the population and environment, as well as to comply with the international commitments to the peaceful use of nuclear energy.

National Commission for the Efficient Use of Energy (CONUEE): Fosters the optimal and sustainable use of energy, by adopting the best practices and measures for the efficient use of energy of the different economic and population sectors.

Mexican Petroleum Institute (IMP): Devises competitive and value solutions derived from scientific research for the national and international oil industry, through the development, assimilation, and transfer of technology, focused on solving specific issues.

National Institute of Electricity and Clean Energy (INEEL): Its main objectives are research, applied innovation, technological development, engineering, and specialized technical services in areas such as energy efficiency, planning and expansion of the national electric system, reliability, safety, simulation, renewable energy, automatization, and new information technologies.

National Center for Natural Gas Control (CENAGAS): Is the Manager of the National Comprehensive System for Transportation and Storage of Natural Gas (SISTRANGAS, for its Spanish acronym), and carrier of natural gas, operating and maintaining its own pipelines.

National Center for Energy Control (CENACE): Exercises the operational control of the National Electric System (SEN, for its Spanish acronym); the operation of the Wholesale Electricity Market (MEM, for its Spanish acronym); and warrants the impartiality for accessing the National Transmission Grid (RNT, for its Spanish acronym) and the General Distribution Grids (RGD, for its Spanish acronym). Prepares the programs to expand and modernize the RNT and RGD, which if authorized by SENER, are incorporated into the Development Program for the National Electricity System (PRODESEN, for its Spanish acronym).

Petroleos Mexicanos (PEMEX): Its objective is to develop the business, economic, industrial, and commercial activities in hydrocarbons matters, generating economic value and profitability for the country, and ensuring production improvement to maximize oil incomes and contribute to the national development.

Federal Electricity Commission (CFE): Is the public utility company which provides electricity under criteria of sufficiency, competitiveness, and sustainability, committed with customer satisfaction, the country's development, and the environmental conservation.

Remaining Regulatory Organs in Hydrocarbons Matters:

Secretariat of Finance and Public Credit (SHCP): Establishes the regime for the incomes received by the country from the activities of exploration and extraction of hydrocarbons performed by means of the assignments and contracts referred to in the Hydrocarbons Law, as well as the contracts considerations⁴.

⁴ Article 1 of the Hydrocarbons Revenue Law.

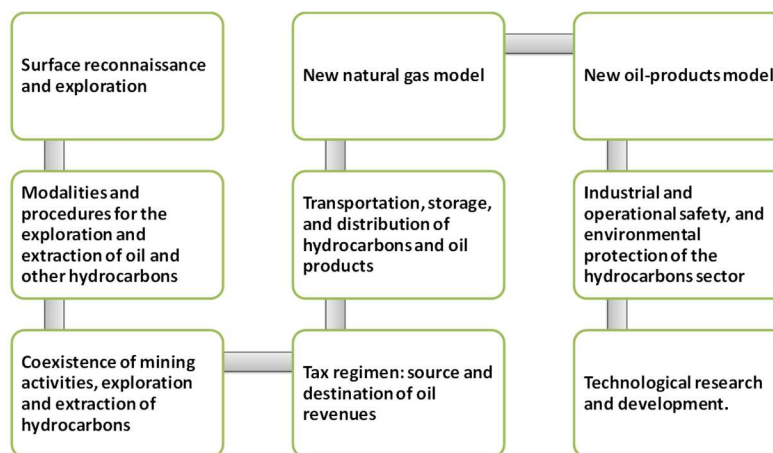
Secretariat of the Interior (SEGOB): Its purpose is to establish specific offences and applicable sanctions in matters of hydrocarbons, oil products, or petrochemicals and other goods related to the process for the production, transportation, storage, and distribution of hydrocarbons⁵.

Secretariat of Environment and Natural Resources (SEMARNAT): Is in charge, through the National Agency of Industrial Safety and Environmental Protection (ASEA, for its Spanish acronym), of exercising the faculties applicable in matters of industrial and operational safety, and environmental protection for the hydrocarbons sector. The latter, by means of regulations, guidelines, criteria, and other general administrative provisions, and, if the case, Mexican Official Standards in matters of environmental protection, industrial safety, and operational safety⁶.

1.2 Value Chain of the Hydrocarbons Sector

The activities within the Mexican energy sector's value chain include the participation of private companies, directly under regulated schemes. This value chain comprises the transportation of subsoil products (crude oil, natural gas and its liquids), as well as transformed products (petrochemicals and refined products), always under the terms established by the secondary legislation, through the permits granted by the Federal Executive. The latter is established more extensively in the Regulatory Law of Constitutional Article 27 for the Oil Branch (see Figure 1.2).

FIGURE 1. 2 NEW INDUSTRIAL MODEL FOR THE HYDROCARBONS SECTOR



Source: SENER with information from *The Constitutional Behavior of Energy From 1917 onwards*.

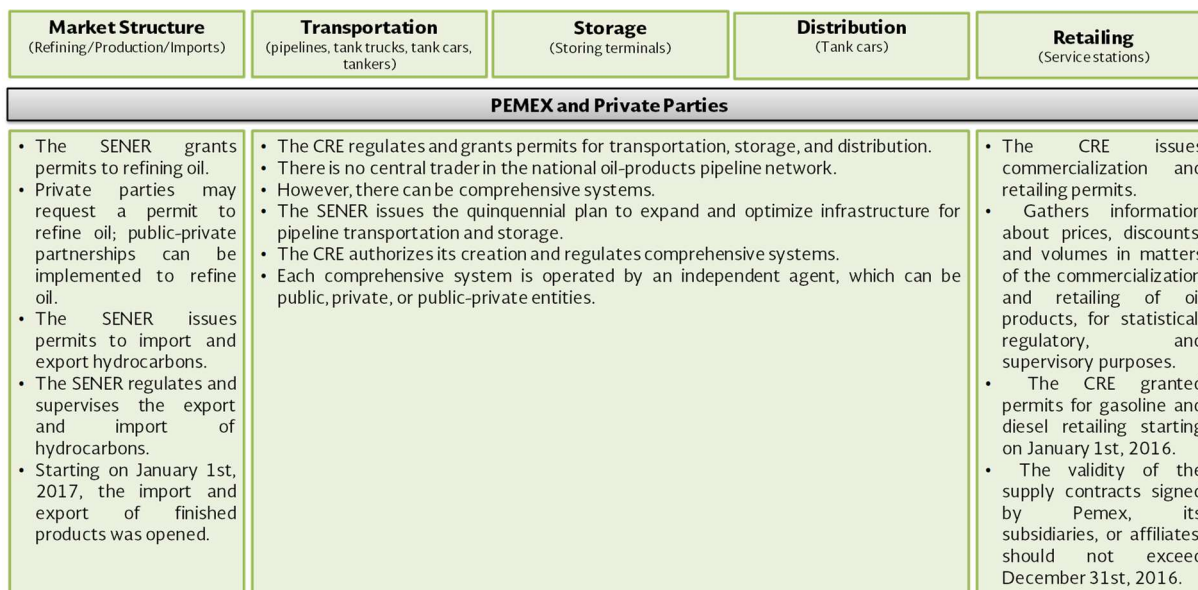
The oil products market is no longer under the control and supply of Pemex, thus, there is a differentiation of costs and prices. Besides, it has been established a transition period for price liberalization, which allow the entry of new actors interested in providing the different services related with selling gasolines and diesel (import, production, storage, transportation, distribution, commercialization, and retailing) within the production chain.

⁵ Article 1 and 3 of the Federal Law to prevent and sanction the offences committed in matters of hydrocarbons.

⁶ Article 1 of the Interior Regulation of the National Agency of Industrial Safety and Environmental Protection of the Hydrocarbons Sector.



FIGURE 1. 3 NEW MODEL FOR OIL PRODUCTS



Source: SENER with information from The Constitutional Behavior of Energy From 1917 onwards.

1.3 Exploration and Extraction of Hydrocarbons

The Energy Reform involves a deep transformation of the legal and institutional framework of the Mexican energy sector that looks forward to promoting the sustainable and efficient use of our natural resources to trigger the sector's potential and, thus, contribute to the country's development.

On March 2017, the SENER published the New Strategy of the Quinquennial Tendering Plan for the Exploration and Extraction of Hydrocarbons 2015-2019 which defines and standardization of the size of areas out to tender. Unlike the previous one, is intended to open for nomination all the areas in deep waters, shallow waters, onshore non-conventional, and onshore conventional, which are divided by category. In addition, two tendering process will be programmed per year according to their category, in such way that during the first semester, deep waters and non-conventional offshore areas will be put out to tender, while shallow waters and conventional offshore will be put out to tender during the second semester, prioritizing exploration areas with extraction fields⁷.

⁷ Quinquennial Tendering Plan for the Exploration and Extraction of Hydrocarbons 2015-2019, New Strategy.

1.3.1 Rounds

Round Zero⁸

Allocation process carried out by the SENER with the technical assistance of the CNH which consisted on allocating assignments to Pemex, based on the technical, financial, and execution capacities of the State Productive Enterprise (EPE, for its Spanish acronym), to operate efficiently and competitively.

The main purpose of Round Zero was to strengthen PEMEX providing it with the necessary resources to ensure the steady pace of its production levels and an appropriate reserves recovery; to allow it to establish global alliances and associations (farmouts) with different companies which may increase its investment capacity and enable Pemex to access new oil fields. This was a fundamental step to its strengthening since it lay the foundations to begin its phase as an EPE.

Round One⁹

This process comprised four international public tenders to allocate contracts for the exploration and extraction of hydrocarbons. This round's first tender was carried out on August 2014 and consisted on a portfolio of areas and fields of different categories. This first tender opened the competitive participation of private companies along with EPEs in activities for the extraction and exploration of oil and natural gas.

Round Two¹⁰

Round Two considered contractual areas for exploration with discoveries which will increase the level of proven and probable reserves. On July 19, 2017 was issued the fourth Call for Tender of Round Two for areas in deep waters. The tendering process for this call is programmed by January 31st, 2018.

Round Three¹¹

The Official Journal of the Federation (DOF, for its Spanish acronym) published on September 29, 2017 the first Call for Tender for Round Three, which is intended to foster the marine oil sector through the exploration and discovery of new resources to recover the country's reserves; an increase in the production of gas and oil; the consolidation of oil areas with comprehensive development; and to attract investment and create high-quality employment.

1.3.2 Contracts Migration¹²

Pemex and the other EPEs may request the SENER to migrate the Assignations entitled to them into Contracts for Exploration and Extraction. The SENER will decide as appropriate with the assistance of the CNH¹³.

If the migration is applicable, the SHCP will establish the economic conditions for the corresponding taxation terms, according to what is established by the Hydrocarbons Revenue Law¹⁴ (see Figure 1.4).

⁸https://www.gob.mx/cms/uploads/attachment/file/200397/Plan_Quinquenal_2017_vf_140320173.pdf

⁹https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

¹⁰https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

¹¹https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

¹²<http://rondasmexico.gob.mx/a1-ayin-xulum-2017/>

¹³ Article 12 of the Hydrocarbons Law.

¹⁴ Article 12 of the Hydrocarbons Law.

FIGURE 1. 4 CONTRACTS MIGRATION



Source: SENER with information from CNH.

1.3.3 Pemex Strategic Partnerships: Farmouts ¹⁵

The tendering process to select partners for exploring and extracting hydrocarbons strengthens PEMEX strategy of establishing partnerships to stabilize oil production and increase it in a profitable, safety, and sustainable way.

Thereby, Pemex Business Plan is still being implemented, considering as essential to take advantage of the Energy Reform's instruments to establish alliances and partnerships. In such way, it will be possible to increase the availability of resources to increase production and speed up the financial recovery of the enterprise¹⁶.

¹⁵ <http://rondasmexico.gob.mx/>

¹⁶ http://www.pemex.com/saladeprensa/boletines_nacionales/Paginas/2017-021-nacional.aspx

1.3.4 Import of Gasolines, Diesel, and Jet Fuel

Under the old monopolistic market, the import of gasoline, diesel, jet fuel, and fuel oil were one of the activities within the value chain which was exclusively for the State with commercialization purposes, restricting private participation. Nonetheless, starting April 1st, 2016, the import of the fuels mentioned above was opened through the permits granted by the SENER in accordance with the Hydrocarbons Law, as stipulated in the Foreign Trade Act, the support of the Secretariat of Economy, and the opinion of the Secretariat of Finance and Public Credit.

The SENER will regulate and supervise the import and export of hydrocarbons and oil products under the terms and conditions set forth in the "AGREEMENT whereby is established the classification and coding of Hydrocarbons and Oil Products whose imports and exports is subjected to a Prior Permit on behalf of the Secretariat of Energy¹⁷", amended on December 30, 2015.

1.4 Opening of the Transportation and Distribution of Hydrocarbons

The oil products supply chain comprises the activities and infrastructure through which the oil products from refineries and imports are transported from its source, stored, and distributed up to the trading points and final use¹⁸. The transportation of the products from the Storage and Delivery Terminals (TAR, for its Spanish acronym) to be distributed to public retail points is carried out by tank-cars owned by Pemex or private companies.

Since the Energy Reform, the activities within the oil-products supply chain has been subjected to the regulation of different government entities: the SENER regulates oil refining and treatment, as well as oil-products import and export; while the CRE is in charge of the activities for transportation, storage, distribution, commercialization, and public retail of oil products.

1.4.1 Open Season

On January 2016, the DOF published the Resolution whereby the Energy Regulatory Commission (CRE) issues the General Administrative Provisions (DACG, for its Spanish acronym) in matters of open access and service provision of pipeline transportation and storage of hydrocarbons and petrochemicals. In accordance with the DACG's Seventh Transitory, Pemex and its subsidiaries shall assign the capacity subject to the Contractual Reserve in their oil products' pipeline transportation and storage systems, through the Open Season procedure¹⁹.

Under the guidelines issued by the CRE, Pemex, through its Subsidiary Pemex Logistics, will perform this opening with an Opening Season, which consists on a transparent and competitive auction procedure, where any participant can bid for any required capacity, through an auction mechanism.

In a first stage (Stage 1.1), Pemex Logistics considers an Open Season program which offers its capacity at the north of the country, including the zones of Rosarito and Guaymas for three years, which will enable the transportation and storage of fuels within Pemex infrastructure, commercialize them in the country, and supply clients such as service stations and end users in the states of Baja California and Sonora.

¹⁷ AGREEMENT published on 29/12/2014 in the DOF.

¹⁸ Diagnosis of the Oil Products Industry.pdf

¹⁹ http://www.dof.gob.mx/nota_detalle.php?codigo=5422482&fecha=12/01/2016



On May 2, 2017 was announced the assignee for the Open Season Stage 1.1. About 22 companies participated in this process, from which only seven were prequalified and submitted a bid bond. However, the American company Tesoro Corporation's economic proposal and oil-products transportation and storage capacity made it the winner. Therefore, this company will have a storage capacity of more than 320 thousand barrels, as well as a pipeline capacity of 9,534 MBD.

It is important to mention that on June 18, 2017, Tesoro Corporation signed the capacity assignment contract with Pemex Logistics, which will be valid for a 3-year period.

1.5 Hydrocarbons Storage

On December 12, 2017, the SENER published in the DOF the Public Policy on Minimum Stocks of Oil Products, which is intended to increase energy safety in Mexico by creating the obligation to keep a minimum stock of gasoline, diesel, and jet fuel in each region of the country.

This project lay down the general guidelines for contributing to the development of a market with a reliable supply of oil products, which will bring certainty among its participants and the general population and will also establish the bases to develop a strong and competitive market. Such Policy is applicable to traders and distributors of oil products who sell them to service stations or end users.²⁰

1.6 Oil Products Prices: Gasolines and Diesel

On December 24, 2015, the DOF published the Agreement whereby it is announced the price band of maximum prices for gasolines and diesel in 2016, in which the SHCP establishes, on a monthly basis, a band with minimum and maximum values for the maximum public retail prices for gasolines with less than 92 octanes, gasoline with more or equal to 92 octanes, and diesel for the tax year 2016²¹.

On November 2016, the DOF published the Decree whereby the Federation's Revenue Law (LIF, for its Spanish acronym) for the Tax Year 2017 was issued, which establishes that the liberalization of gasolines and diesel prices would be gradual and orderly implemented, and for which the CRE, along with the COFEC's opinion, established the criteria and the liberalization schedule by regions for 2017.

On December 27, 2016, the DOF published the "AGREEMENT whereby is announced the regions where the maximum retail prices for gasolines and diesel will be implemented, as well as the methodology for their fixation". This AGREEMENT lay the foundations to fix maximum prices in the zones where the price is not fixed by the market conditions. Additionally, it published the 83 regions where the maximum retail prices for gasolines and diesel would be applied.

On February 17, 2017, the DOF published the "AGREEMENT whereby is amended the previous decree which made public the regions where the maximum retail prices for gasolines and diesel will be applied, as well as the methodology for fixing them, published on December 27, 2016. This AGREEMENT amends the formula of maximum prices for the zones which have not been liberalized, and for which the SHCP will maintain a scheme of maximum prices. Likewise, if the CRE detects unjustified price increases, will notify that Secretariat, which may fix temporary maximum prices.

Once prices have been liberalized throughout the Mexican territory, the SHCP will keep on with the mechanism of price smoothing by adjusting the IEPS. On November 29, 2017, the DOF published the "AGREEMENT whereby it is published the methodology to define the fiscal stimulus in matters of the special tax on production and services applicable to the mentioned fuels.

²⁰ http://dof.gob.mx/nota_detalle.php?codigo=5507473&fecha=12/12/2017

²¹ http://dof.gob.mx/nota_detalle.php?codigo=5421290&fecha=24/12/2015

The methodology of maximum prices applied in the regions which have not yet been liberalized, and which expires on December 31st, 2018, takes into account the following elements:

- International benchmarks: gasoline and diesel wholesale price in the Gulf Coast of the United States (Houston).
- Quality-adjusted price: estimates the adjustment by octane number and vapor pressure for gasolines; and by cetane and sulfur, for diesel.
- Logistics cost: includes the cost of maritime transport, distribution through national territory, and storage.
- Commercial margin: covers the sales and marginal costs of the service stations.
- IEPS: fee of the Special Tax on Production and Services.
- Other: include applicable IEPS fees and Value Added Tax.

After fuels prices were liberalized, 6,944 million liters of Premium gasoline; 30,175 liters of Magna gasoline; and 12,963 liters of diesel are being sold at market price.

1.7 Commercialization of Hydrocarbons

In accordance with what is established in the LH, starting January 1st, 2016, private parties are allowed to participate in fuel retailing under a scheme of permits granted by the CRE. On August 2016, the DOF published the Agreement of the CRE (Agreement No. A/034/2016), which established the criterium which will prevail in the development of commercialization activities of hydrocarbons, oil products, or petrochemicals.

During 2017, the gasolines and diesel markets in Mexico will go through a sole-provider model, in charge of supplying the whole country, in an open and competitive scheme where more players will compete to distribute these fuels throughout the national territory.

To September 2017, the CRE has granted a total of:

- 106 permits to commercialize oil products, including permits granted to Pemex and its affiliates.
- 22 permits for combined commercialization of oil products, which comprise the trading of hydrocarbons, oil products, and petrochemicals.

1.8 Specific Regulation in the Hydrocarbons Branch

Nowadays, the activities related to the exploration, extraction, industrial transformation, transportation, storage, commercialization, distribution, and retailing of hydrocarbons can be developed by any company as long as it obtains the respective permits issued by the competent authorities, and in accordance with the general regulations and provisions established in the current regulation (see Table 1. 1).



TABLE 1. 1 REGULATION 2016-2017 OF THE HYDROCARBONS BRANCH

Issuing Date	Organ	Regulation
2016		
7/1/2016	CNH	TECHNICAL PROVISIONS for the utilization of associated NG for hydrocarbons exploration and extraction.
7/1/2016	CRE	RESOLUTION whereby Energy Regulatory Commission issues the general administrative provisions in matter of measurement applicable to the activity of oil, oil products, and petrochemicals storage.
12/1/2016	CRE	RESOLUTION whereby Energy Regulatory Commission issues the general administrative provisions in matter of open access and provisions of transportation by pipeline and storage of oil-products and petrochemicals.
27/1/2016	PEMEX	AGREEMENT whereby was approved the amendments to the General Contracting Provisions for PEMEX and its Subsidiary Productive Enterprises.
11/2/2016	CNH	AGREEMENT CNH.E.02.001/16, whereby the National Hydrocarbons Commission amends articles 43, section II and 46, first paragraph and add the transitory seventh to the technical guidelines in matter of hydrocarbons measurement, issued on September 29, 2015.
12/2/2016	SHCP	AGREEMENT whereby varied provisions are added to the general Rules for defining the methods of value adjustment of the hydrocarbons for the rights on hydrocarbons.
23/2/2016	SENER	NOTICE whereby is informed that starting April 1st, 2016, the Secretariat of Energy can grant gasolines and diesel import permits to any interested party compliant with the applicable legal provisions.
3/3/2016	CRE	AGREEMENT whereby Energy Regulatory Commission interprets for administrative purposes the cross participation referred to in the second paragraph of article 83 of the Hydrocarbons Law and establishes its authorization procedure.
11/3/2016	CRE	RESOLUTION whereby the Energy Regulatory Commission modifies the previous resolution whereby it issued the general administrative provisions establishing the requirements to submit permit applications for trading natural gas, LP gas, oil products and petrochemicals identified with the number RES/370/2015, in order to add hydrocarbons into the list of products subjected to trading permits.
14/3/2016	CRE	RESOLUTION whereby is issued the methodologies to determine the FHS of petrochemical and oil products other than gasoline and diesel, subjected to regulation.
22/3/2016	CRE	RESOLUTION whereby Energy Regulatory Commission issued the general administrative provisions applicable to FHS and gasoline and diesel, under conditions of asymmetric regulation to Pemex, its subsidiary organisms, its affiliates and divisions, and any other entity controlled by such entities.
23/3/2016	SENER	AGREEMENT whereby is announced the format to notify the Secretariat of Energy of the commencement of negotiations for the use, possession, expropriation, or if the case, purchase of land, goods, or rights necessary to carry out the varied activities foreseen in the Hydrocarbons Law.
23/3/2016	CRE	RESOLUTION whereby Energy Regulatory Commission issues the general administrative provisions applicable to FHS and trading of oil products and petrochemicals, except for gasoline, diesel and LP gas, under conditions of asymmetric regulation to Pemex, its affiliates, subsidiary organisms, and any other entity controlled by such entities.
25/3/2016	SHCP	AGREEMENT whereby is announced the supplementary fees and the definite fees of the special tax on production and services applicable to gasolines and diesel, as well as these fuels maximum prices, applicable on April 2016.
28/3/2016	SHCP	AGREEMENT whereby is announced the tax stimulus to gasoline and diesel in the fisheries and agriculture and livestock sectors by April 2016.
30/3/2016	CRE	RESOLUTION whereby Energy Regulatory Commission amends the seventh transitory provision in matter of open access and provision of transportation services by pipeline and storage of oil-products and petrochemicals.
8/4/2016	CNH	GUIDELINES for transferring historical information.
12/4/2016	SHCP	AGREEMENT whereby is announced the amounts of the tax stimulus, decreased fees, and retailing maximum prices of the gasolines alienated in the border region with the USA, during the period of April 13 to 19, 2016.

15/4/2016	CNH	AGREEMENT CNH.E.09.002/16, whereby the National Hydrocarbons Commission amends article 17 and adds the eighth transitory of the guidelines which regulate the process of quantification and certification of the Nation Reserves and the report of the related contingent resources.
21/4/2016	CNH	AGREEMENT CNH.03.005/16, whereby the National Hydrocarbons Commission carry out varied amendments and additions to the guidelines which regulate the procedure for the submittal, approval, and supervision of the compliance with the exploration and developmental plans for the extraction of hydrocarbons, as well as their amendments.
26/5/2016	CRE	RESOLUTION whereby is clarified the previous resolution RES/955/2015 whereby are issued the methodologies to determine FHS of gasolines and diesel.
2/6/2016	SENER	AGREEMENT whereby is issued the guidelines and Contract Models for the use, possession, expropriation, or if the case, purchase of land, goods, or rights for carrying out activities of hydrocarbons exploration and extraction, and transportation through pipelines.
20/7/2016	CNH	FIRST Call number CNH-R02-C01/2016 for the International Public Tender CNH-R02-L01/2016, regarding Round 2.
28/7/2016	CNH	CALL number CNH-A1-Trion-C1/2016 for the process of the International Public Tender CNH-A1-Trion/2016.
2/8/2016	CNH	AGREEMENT CNH.E.29.002/16 whereby the National Hydrocarbons Commission amends articles 42 and 43 of the Technical Guidelines in Matter of Hydrocarbons Measurement.
10/8/2016	CRE	AGREEMENT de la Energy Regulatory Commission which establishes the criterium which should prevail while developing trading activities of hydrocarbons, oil products, or petrochemicals.
24/8/2016	CNH	SECOND Call number CNH-R02-C02/2016 for the International Public Tender CNH-R02-L02/2016, regarding Round 2.
29/8/2016	CNH	AGREEMENT whereby Energy Regulatory Commission issues the Mexican Official Standard NOM-016-CRE-2016, Oil-products quality specifications.
14/10/2016	CNH	GUIDELINES for wells drilling. (Continues in the Fifth Section) PEMEX
7/11/2016	ASEA	Mexican Official Standard NOM-005-ASEA-2016, Design, Construction, Pre-Startup, Operation and Maintenance of the Services Stations for diesel and gasolines storage and retailing.
14/11/2016	ASEA	Mexican Official Standard NOM-005-ASEA-2016, Design, Construction, Pre-Startup, Operation and Maintenance of the Services Stations for diesel and gasolines storage and retailing.
15/11/2016	CNH	THIRD Call CNH-R02-C03/2016 for the process of the International Public Tender CNH-R02-L03/2016, Round 2.
13/12/2016	CNH	VERDICT of the International Public Tender CNH-R01-L04/2015.
24/11/2016	ASEA	Emergency Mexican Official Standard NOM-EM-003-ASEA- 2016, Technical specifications and criteria on Industrial Safety, Operational Safety, and Environmental Protection for the Design, Construction, Pre-Startup, Operation and Maintenance of the onshore facilities for oil-products storage, except for LP gas.
2017		
30/1/2017	CNH	Emergency Mexican Official Standard NOM-EM-003-ASEA- 2016, Technical specifications and criteria on Industrial Safety, Operational Safety, and Environmental Protection for the Design, Construction, Pre-Startup, Operation and Maintenance of the onshore facilities for oil-products storage, except for LP gas.
7/2/2017	CNH	ANNEXES of the guidelines whereby are established the requirements and procedure to sign alliances or partnerships to transfer the operational and managerial control or the control of the operations, regarding the agreements for hydrocarbons exploration and extraction.
7/3/2017	CNH	CALL number CNH-A2-AYIN-BATSIL-C1/2017 for the process of the International Public Tender CNH-A2-AYIN-BATSIL/2017.
15/3/2017	CNH	AGREEMENT CNH.E.02.002/17, whereby National Hydrocarbons Commission issues the official formats for delivering the information and documentation corresponding to the applications, authorizations, notices, notifications, record, and reports related to the regulation indicated in these formats.
16/8/2017	CNH	AGREEMENT CNH.E.31.001/17 whereby the National Hydrocarbons Commission amends articles 15, first paragraph and section I and II; 26, in its heading; 27 and 39, and adds a section III to article 15 and a second paragraph to article 26 of the general administrative provisions, in matter of authorizations for the superficial reconnaissance and exploration of hydrocarbons.
18/09/2017	CNH	Call number CNH-A5-NOBILIS-MAXIMINO-C4/2017 for the process of the International Public Tender CNH-A5-NOBILIS-MAXIMINO/2017.



29/9/2017	CNH	FIRST Call number CNH-R03-C01/2017, for the Process of the International Public Tender CNH-R03-L01/2017, regarding Round 3.
17/10/2017	CNH	VERDICT of the International Public Tender CNH-A4- OGARRIO/2017.
17/10/2017	CNH	VERDICT of the International Public Tender CNH-A3-CÁRDENAS MORA/2017.
17/10/2017	CNH	VERDICT of the International Public Tender CNH-A2-AYIN-BATSIL/ 2017.
31/10/2017	ASEA	Emergency Mexican Official Standard NOM-EM-005-ASEA- 2017, which established the criteria for classifying the Special Handling Residues of the Hydrocarbons Sector and determine which of them are subjected to the Management Plan; this list, as well as the elements and procedures to elaborate the Hazard and Special Handling Wastes Management Plans of the Hydrocarbons Sector.
28/11/2017	CNH	AGREEMENTCNH.E.60.001/17 whereby are amended, added, and abrogated varied articles of the Well Drilling Guidelines.
11/12/2017	CNH	AGREEMENTCNH.E.61.005/17 whereby are modified and added varied articles of the technical guidelines in matter of hydrocarbons measurement.
22/12/2017	CNH	AGREEMENTCNH.E.60.002/17 whereby the National Hydrocarbons Commission abrogates varied numerals o the Annex I, Guide for the Plans on Hydrocarbons Exploration of the Guidelines which regulate the procedure for the submittal, approval, and supervision of the compliance with the exploration and developmental plans for the extraction of hydrocarbons, as well as their amendments.

Source: SENER.

CHAPTER TWO. CRUDE-OIL AND OIL-PRODUCTS HISTORICAL DOMESTIC MARKET

Chapter Two presents an analysis of the evolution of the oil and oil products domestic market for the period 2006-2016; the wells drilled in exploration and development, onshore and offshore, with its success percentage; as well as the fields which are currently producing, and the ones incorporated into the national reserves.

It displays the information about domestic oil supply and its destination; along with the distribution of reserves by type and region, as well as the investment made by Pemex in 2016.

The chapter also describes the installed capacity of the National Refining System (SNR, for its Spanish acronym); type of crude processed; production of oil products (gasolines, diesel, jet fuel, fuel oil, and petroleum coke) by refinery, and their production yields at national level. It presents the techniques (reconfigurations, maintenance-related closures) which brought up a change regarding 2015; in addition to the domestic demand and exports of each oil product.

Oil-products import is analyzed in detail due to the hydrocarbons sector's new model, which has granted import permits for gasolines, diesel, and jet fuel, resulting in a better provision of fuels.

Due to the importance of the fuels demand by sector, it presents information broken down by oil product and consumption sector, putting emphasis on the motor-carrier sector, and mentioning the factors which have contributed to a larger consumption of gasolines and diesel, as well as the taxation modifications regarding consumption. In this sense, it includes information about the evolution of the domestic vehicle fleet and its impact on fuels demand.

This chapter displays the contractual areas tendered and allocated in the Rounds carried out in 2017, the companies with whom Pemex has partnered strategically (Farmouts)



2.1 Domestic Demand

2.1.1 Oil

In 2016, 43.8% of oil crude production was destined to domestic consumption, that is, it was distributed in the SNR; while the remaining 56.2% was sent to export terminals²² (see Table 2.1).

TABLE 2. 1 OIL DISTRIBUTION BY DESTINATION, 2006 – 2016
(MBD)

Distribution	Annual Data										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	3,233.7	3,057.8	2,754.2	2,593.5	2,548.7	2,515.2	2,479.3	2,419.5	2,309.7	2,241.7	2,133.7
Export Terminals	1,789.1	1,701.3	1,406.9	1,231.7	1,358.0	1,342.9	1,268.3	1,190.4	1,148.6	1,177.7	1,198.7
Refineries	1,242.1	1,230.9	1,216.2	1,264.4	1,190.7	1,172.3	1,211.0	1,229.1	1,161.1	1,064.0	935.0
La Cangrejera	122.3	125.5	131.1	97.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maquila	80.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: SENER with information from SIE.

2.1.2 Oil Products

The 2016 total demand of oil products was of 1,391.0²³ MBDCOE, 2.9% more regarding 2015 (see Table 2.2). The share by consumption sector was distributed as follows:

- 79.5% was destined to the consumption needs of transportation sector.
- 10.7% represented the electricity sector consumption.
- 7.4% represented the oil-products demand in the industrial sector.
- 2.3% corresponded to oil sector.

²² The difference between the production of domestic crude oil and its distribution is related to adjustments in metering, reductions, and leakages, naphthas and condensated added to crude oil.

²³ Takes into account automotive gasolines, diesel, jet fuel, fuel oil, and petroleum coke.

TABLE 2. 2 OIL-PRODUCTS DEMAND BY SECTOR AND FUEL, 2006 – 2016
(MBDCOE)

Sector	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	1,406.1	1,463.0	1,460.9	1,406.9	1,396.4	1,427.9	1,463.7	1,431.5	1,346.5	1,351.9	1,391.0	-0.1
Transportation	968.1	1,025.8	1,069.6	1,037.1	1,057.4	1,063.6	1,077.8	1,058.9	1,058.0	1,071.4	1,105.7	1.3
Gasolines	595.2	630	656.3	656.2	664.2	662.2	665.5	652	643.2	657	681.9	1.3
Diesel	312.5	328.8	349.4	327	338.3	346.5	354.7	346.6	350.1	345.5	349.6	1.4
Fuel Oil	1.3	1.3	1.1	0.7	0.9	0.7	0.2	0	0.3	0.5	0.4	1.2
Jet Fuel	59.2	65.7	62.8	53.2	54	54.3	57.4	60.2	64.3	68.5	73.8	0.5
Electricity	253	245.7	218.4	215.1	197.9	219.5	247	224	151.5	136.6	149.2	0.5
Diesel	7.8	4.5	6.8	8.6	8	9.5	14.1	13.8	9.5	9.3	11.2	-0.8
Fuel Oil	230.5	226.5	197.5	192.5	172.5	193.2	215.6	192.4	124.2	110	122.6	-0.2
Petroleum Coke	14.8	14.7	14.1	14.1	17.4	16.8	17.4	17.8	17.7	17.4	15.4	-10.1
Industrial	128.9	134.1	115.9	98.4	90.7	93.7	92.2	97.4	88.3	98.2	103.6	2.2
Diesel	24.3	24.8	25.5	23.1	24.5	27.3	31.4	30.9	29.4	29.7	26.3	2.2
Fuel Oil	52.7	49.2	38.3	32.2	26	22.5	15.4	11.8	7	10	14.6	-5.1
Petroleum Coke	51.9	60.1	52.1	43.2	40.2	43.9	45.3	54.7	51.9	58.5	62.6	3.7
Oil	56	57.5	57.1	56.3	50.4	51.1	46.7	51.2	48.7	45.7	32.5	-6.1
Gasolines	0.6	0.5	0.5	0.6	0.6	0.7	1	1.1	1.7	1.5	0.8	0
Diesel	15	17.1	17.6	19.9	19.1	17.6	19.8	22.2	20.7	19.8	10.3	-2.2
Fuel Oil	40.5	39.8	39	35.8	30.7	32.8	25.9	27.9	26.2	24.4	21.4	0.8

Note: Since the units of measurement of some fuels are different, MBD and MTA are expressed as MBDCOE (power) to make them comparable and avoid units of volume.

Source: Elaborated by SENER, IMP with information from ASA, CFE, CRE, DGAC, Pemex, SE and private companies.

2.1.2.1 Transportation Sector

The transportation sector required 1,105.7 MBDCOE in 2016 to serve its consumption needs, 3.1% more regarding 2015; from this, 90.8% was destined to motor carrier, 6.7% to aerial, 1.3% to maritime, and 1.2% to rail. The oil-products demand for motor carrier is greatly related to the growing behavior of the gasoline and diesel-powered vehicle fleet (see Table 2.3).



TABLE 2. 3 TRANSPORTATION SECTOR DEMAND BY FUEL, 2006 – 2016
(MBDCOE)

Transportation Sector	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	968.1	1025.8	1069.6	1037.1	1057.4	1063.6	1077.8	1058.9	1058	1071.4	1105.7	1.3
Motor-Carrier	880.1	931.6	976.1	959.2	976.5	979.1	992	972.2	966.6	973.9	1003.7	1.3
Gasolines	595.2	630	656.3	656.2	664.2	662.2	665.5	652	643.2	657	681.9	1.4
Diesel	285	301.6	319.8	303.1	312.2	316.9	326.4	320.2	323.3	316.9	321.8	1.2
Railway Transportation	12.7	12.6	11.8	11.2	12.5	13.5	12.7	12.7	12.8	13.4	13.4	0.5
Diesel	12.7	12.6	11.8	11.2	12.5	13.5	12.7	12.7	12.8	13.4	13.4	0.5
Maritime Transportation	16.1	15.9	18.8	13.5	14.4	16.8	15.8	13.8	14.3	15.6	14.9	-0.8
Diesel	14.8	14.6	17.7	12.8	13.5	16.1	15.6	13.7	14	15.2	14.4	-0.2
Fuel Oil	1.3	1.3	1.1	0.7	0.9	0.7	0.2	0	0.3	0.5	0.4	-10.1
Aerial Transportation	59.2	65.7	62.8	53.2	54	54.3	57.4	60.2	64.3	68.5	73.8	2.2
Jet Fuel	59.2	65.7	62.8	53.2	54	54.3	57.4	60.2	64.3	68.5	73.8	2.2

Source: Elaborated by IMP, based on information from ASA, SCT, PEMEX and SENER.

Motor-Carrier

The consumption of gasolines and diesel grew 3.8% and 1.5% respectively, regarding 2015. Factors such as a greater vehicle energy efficiency – related to demanding environmental regulations –, the behavior of gasolines and diesel prices, as well as to their clandestine trade, contributed to these fuels' demand in the motor-carrier sector.

Vehicle Fleet is the reference variable to explain the demand of automotive fuels. During the last ten years it is estimated a 71.6% growth, accounting for 3.3% more than in 2015²⁴ (see Table 2.4).

TABLE 2. 4 VEHICLE FLEET STRUCTURE, 2006 – 2016
(thousand vehicles)

Class	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	20.1	22.1	24.1	25.1	26.2	27.8	29.4	31.3	31.9	33.4	34.5	5.5
Subcompact	4.7	4.9	5.1	5.2	5.3	5.4	5.5	5.7	5.7	5.9	6.2	2.8
Compact	4.7	5.1	5.5	5.7	5.9	6.3	6.6	7	7	7.3	7.4	4.6
Luxury and sports	1.5	1.7	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.6	2.7	6.2
Vans	6.3	7.2	8.2	8.7	9.2	9.9	10.6	11.4	11.7	12.2	12.4	7.1
Intensive-Use Vans	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.7	1.6	1.1
Buses	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.9
Medium-size trucks	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.1
Heavy trucks	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.9
Metrobus ¹	0	0	0	0	0	0	0	0	0	0	0	24.8
Motorbikes	0.7	0.9	1.1	1.2	1.2	1.3	1.6	1.9	2.3	2.8	3.3	16.5

¹ Due to rounding up the values here are presented as zero.

Note: Includes hybrids, metrobus, and bikes; and excludes electric vehicles.

Source: Elaborated by IMP, based on information from private companies.

²⁴ It is important considering some of the factors for purchasing a vehicle is its price, the consumer disposable income, technical specifications, maintenance costs, replacement options, yield per kilometer, etc.

In 2016, according to the type of motor (see Table 2.5):

- 97.4% of the vehicle fleet used gasoline engines, that is, 33.7 thousand vehicles; 4.3% more compared to 2015.
- 2.6% of the vehicle fleet used diesel engines, an increase by 12.5% regarding the previous year.

TABLE 2. 5 BEHAVIOR OF THE VEHICLE FLEET POWERED BY GASOLINE AND DIESEL, 2006 – 2016
(thousand vehicles)

Class	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Gasoline	19.2	21.2	23.1	24.2	25.2	26.8	28.4	30.1	30.7	32.3	33.7	5.8
Diesel	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.9	2.3

Note: Includes hybrids and bikes.

Source: Elaborated by IMP, based on information from private companies.

Aerial Transportation

To cover the consumption needs of the aerial sector in 2016, 73.8 MBCOE of jet fuel were needed, 7.7% more than in 2015 (see Table 2.6).

In Mexico, Airports and Ancillary Services (ASA, for its Spanish acronym) is the agency in charge of supplying fuel to the service stations located in the domestic airports²⁵; according its statistics, in 2016 operations by type of aviation grew 4.6% regarding the previous year.

TABLE 2. 6 OPERATIONS BY TYPE OF AVIATION, 2006 – 2016
(thousand operations)

Type	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	1,696.6	1,899.4	1,828.5	1,626.6	1,650.3	1,633.5	1,683.3	1,700.2	1,780.6	1,821.6	1,905.4	1.2
Commercial regular ¹	1,064.5	1,232.1	1,164.9	988.5	960.6	922.7	979.2	1,023.2	1,091.3	1,153.9	1,241.0	1.5
Charter ²	30.7	31.2	27.6	20.3	16.6	17.0	13.7	12.7	10.2	11.5	11.5	-9.4
Commercial no regular ³	224.5	245.3	247.6	246.5	267.8	262.9	268.3	248.8	259.0	244.9	228.1	0.2
General aviation	336.0	352.9	349.5	335.7	362.4	385.5	374.0	370.1	378.9	373.1	383.9	1.3
Freight	40.9	37.9	38.9	35.6	42.9	45.4	48.1	45.4	41.2	38.2	40.9	0.0

¹ Refers to aircrafts of airlines with set routes and itineraries.

² Refers to commercial aircrafts with routes not under concession and/or out of itinerary, which operate sporadically.

³ Refers to aerial taxis.

⁴ Refers to private, official, military, and general aviation aircrafts with foreign plates.

Source: ASA.

²⁵ Since 1979, Airports and Ancillary Services, decentralized organ sectorized to the SCT, is in charge of providing the services of storage, distribution, and supply of fuel to aerial carriers. Notwithstanding, the current legislation establishes that any interested party complying with the requirements, can request the CRE a permit to develop such activity.



Maritime and Rail Transportation

Maritime transport presented in 2016 a diesel demand of 14.4 MBCOE, 5.2% less than in 2015, due to the growing use of vessels powered by alternative fuels such as natural gas.

In 2016, the average diesel demand in rail transport remained in 13.4 MBD, regarding 2015; the same as freight transport and the average power intensity of this means of transportation.

Rail is still a means of transportation to convey goods for the automotive, cement, steel, and agriculture industries. The tons-kilometer transported in 2016 by that means were of 83.4 billion (see Table 2.7).

TABLE 2. 7 FREIGHT TRANSPORTATION AND POWER INTENSITY OF RAIL TRANSPORT, 2006 – 2016

Annual Data										
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Rail freight transportation (million tons-kilometer)										
73,726	77,169	74,582	69,185	78,770	79,728	79,353	79,353	80,683	83,401	83,401
Energy intensity of the rail freight transportation (kilojoules / ton-kilometer)										
364.8	344	333.3	333.9	330.6	333.4	336.2	336.2	330.9	330.4	330.4

Source: Elaborated by IMP, based on information from SCT.

2.1.2.2 Electricity Sector

In 2016, the electricity sector demand for fossil fuels accounted for 951.8 MBDCOE, 3.3% than in 2015, and 20.8%, regarding 2006 (see Table 2.8).

The use of fuels in the electricity sector was:

- 69.6% of natural gas, being the largest consumer in this sector.
- 12.9% of fuel oil, reducing its share due to the program to replace fuel power stations with natural gas implemented by CFE. However, from 2015 to 2016, its consumption increased by 11.5% due to lower electricity production levels from hydroelectric power plants.
- Coal, petroleum coke, and diesel were the fuels with the smallest share with 14.7%, 1.6%, and 1.2%, respectively.

In Mexico, the largest consumer of fuels to generate electricity is CFE (see Table 2.8). Among its cost-reduction objectives, CFE is developing a strategy to replace expensive and high-emissions fuels with natural gas, which is cheaper and cleaner. In 2016, the use of natural gas continued, as well as plant conversions to cleaner fuels, the progress of combined-cycle projects, and the construction of infrastructure to transport this fuel.

CFE's program of environment investment is focused on upgrading stations, replacing bases to reduce pollution, emissions control, and constructing wastewater-treatment stations, instead of focusing on the construction of new generating stations.

It is important to remember that the restriction of being CFE the sole responsible for supplying electricity to the country was eliminated. Therefore, the conditions for developing an electricity market, where generators as well as public and private suppliers converge on equal footing. An important aspect to mention is that, now, suppliers (whether CFE or private companies) and qualified users are obliged to buy Clean Energy Certificates to generate and consume electricity, in order to promote the use of clean technologies, avoid its cost overrun in the short term, and its dependency on natural gas.

TABLE 2. 8 FOSSIL FUELS IN THE ELECTRICITY SECTOR, 2006 – 2016
(MBDCOE)

Type	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	787.6	823.2	785.9	829.3	824.9	878.6	912	916.5	884.6	920.8	951.8	1.9
Natural Gas	407.3	450.2	473.6	495.3	499.3	524.3	531.1	566.8	603.6	648.3	662.7	5
Public electricity generation (CFE)	142.1	146.2	149.8	164.7	164.7	170	182.2	206	212.5	246.5	244	5.6
Public electricity generation (LFC)	5.2	9.5	8.3	9.8	8.3	10.6	9.6	10.2	7	11.6	10.9	7.8
Independent Power Production	197.4	231.8	248.9	255.8	263.5	280.6	271.6	277.1	298.3	293.4	287.7	3.8
Electricity self-generation	39.3	41.7	41.4	41.7	45	44.9	45.1	51	61.2	72.9	100.5	9.8
Electricity export	23.4	21	25.1	23.4	17.8	18.2	22.6	22.5	24.7	23.9	19.5	-1.8
Diesel	7.8	4.5	6.8	8.6	8	9.5	14.1	13.8	9.5	9.3	11.2	3.7
Public electricity generation (CFE)	6.8	2.9	4.5	6.7	6.2	7.6	12.2	11.8	6.8	6.6	7.6	1.1
Independent Power Production	0	0.3	0.6	0	0	0	0.3	0.3	0.6	0.9	1.7	46
Self-supply	0.6	0.9	1.3	1.5	1.5	1.7	1.4	1.4	2	1.6	1.6	10.6
Cogeneration	0.1	0.1	0.1	0.2	0.1	0	0	0	0.1	0	0.1	-0.3
Continuous own uses	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.2	0.1	-2.8
Fuel Oil	230.5	226.5	197.5	192.5	172.5	193.2	215.6	192.4	124.2	110	122.6	-6.1
Public electricity generation (CFE)	221.3	217.5	192	186.6	168.1	190	211.9	189.4	121.3	108	120.9	-5.9
Self-supply	2.2	3.4	1.8	1.7	1.4	1	1.3	0.9	1.6	0.5	0.5	-13.3
Cogeneration	1.1	1.1	0.8	0.9	0.8	0.7	0.7	0.7	0.6	1.2	1	-0.9
Continuous own uses	6	4.6	2.9	3.2	2.2	1.5	1.7	1.5	0.7	0.3	0.2	-29.4
Coal	127.3	127.4	94	118.8	127.7	134.8	133.9	125.8	129.5	135.9	140	1
Public electricity generation (CFE)	127.1	126.8	93.5	118.3	127.1	134.2	133.3	125.2	129	135.7	140	1
Continuous own uses	0.2	0	0	0	0	0	0	0	0	0	0	NA
Self-supply	0	0.6	0.5	0.5	0.7	0.6	0.6	0.6	0.6	0.2	0	NA
Petroleum Coke	14.8	14.7	14.1	14.1	17.4	16.8	17.4	17.8	17.7	17.4	15.4	0.4
Self-supply	14.8	14.7	14.1	14.1	17.4	16.8	17.4	17.8	17.7	17.4	15.4	0.4

Source: Elaborated by SENER with information from IMP, based on information from CFE, PEMEX and SENER and private companies.



2.1.2.3 Industrial Sector

During 2015-2016 the industrial sector increased its fuels demand in 6.8%, increasing from 347.8 MBDCOE in 2015 to 371.4 MBDCOE in 2016 (see Table 2.9).

From the total fuels demanded by this sector:

- The consumption of natural gas has grown 43.5% in the last ten years.
- Petroleum coke is the oil product consumed the most from 2006 to 2016 by the intensive industrial branches, mainly by the cement industry. Its demand increased by 20.6%.
- Fuel-oil demand has decreased by 72.2% from 2006 to 2016 given that this fuel has been replaced by natural gas. However, from 2015 to 2016, its consumption increased by 46.8%, despite the low production levels of electricity by hydroelectric power plants.

**TABLE 2. 9 BEHAVIOR OF FUELS DEMAND IN THE INDUSTRIAL SECTOR,
2006 – 2016
(MBDCOE)**

Type	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	320.8	327.0	303.6	266.7	283.8	299.1	306.6	325.6	331.1	347.8	371.4	1.5
Fuel Oil	52.7	49.2	38.3	32.2	26.0	22.5	15.4	11.8	7.0	10.0	14.6	-12.0
Petroleum Coke	51.9	60.1	52.1	43.2	40.2	43.9	45.3	54.7	51.9	58.5	62.6	1.9
Diesel	24.3	24.8	25.5	23.1	24.5	27.3	31.4	30.9	29.4	29.7	26.3	0.8
LP Gas	19.9	19.5	18.2	18.3	19.3	18.3	18.3	20.1	20.3	21.0	21.1	0.6
Natural Gas	172.0	173.4	169.5	150.0	173.8	187.0	196.1	208.1	222.4	228.6	246.7	3.7

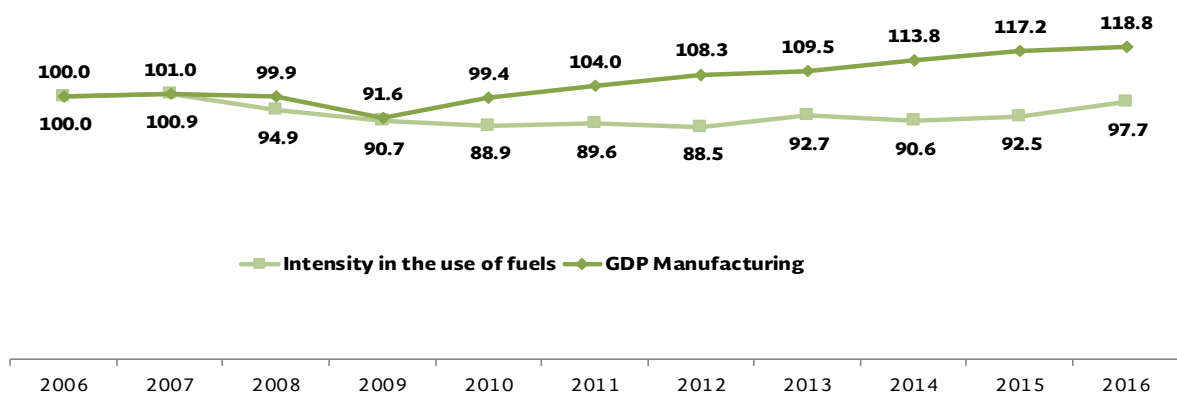
Source: Elaborated by IMP, based on information from CRE, PEMEX, SENER and private companies.

The industrial sector is characterized by the high energy intensity²⁶ of its projects. Between 2015 and 2016, its intensity increased by 1.3%, which implied that, to produce \$1.00 MXN of the manufacturing GDP in 2016, it was necessary a larger volume of power. Nonetheless, this sector has replaced inefficient equipment through support programs which contribute to less fuel consumption (see Figure 2.1).

²⁶ Based on the amount of energy needed to produce \$1.00 MXN of the Gross Domestic Product (GDP) of the domestic economy. That is, the more energy consumed by each unit, the less energy efficiency will have that system; in the case of a country, it has been related with the GDP.

FIGURE 2. 1. FUELS-USE INTENSITY IN THE INDUSTRIAL SECTOR AND MANUFACTURING GDP, 2006 - 2016

(Index 2006 = 100)



Source: Elaborated by IMP, based on information from CRE, INEGI, Pemex, Sener and private companies.

2.1.2.4 Oil Sector

In 2016, 97.6% of oil products consumption in the oil sector was focused on fuel oil and diesel, 28.9% less regarding 2015. Fuel oil is used for Pemex cogeneration projects, as well as for generating heat and vapor in this sector’s ancillary services stations. On the other hand, diesel is used for transportation services and backup generators (see Table 2.10).

TABLE 2. 10 FUELS TOTAL DEMAND IN THE OIL SECTOR, 2006 – 2016
(MBDCOE)

Type	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	56.0	57.5	57.1	56.3	50.4	51.1	46.7	51.2	48.7	45.7	32.5	-5.3
Gasolines	0.6	0.5	0.5	0.6	0.6	0.7	1.0	1.1	1.7	1.5	0.8	3.6
Diesel	15.0	17.1	17.6	19.9	19.1	17.6	19.8	22.2	20.7	19.8	10.3	-3.7
Fuel Oil	40.5	39.8	39.0	35.8	30.7	32.8	25.9	27.9	26.2	24.4	21.4	-6.2

Source: Elaborated by SENER based on information from PEMEX.

2.2 Domestic Supply

2.2.1 Hydrocarbons Reserves

To January 1st, 2017, Mexico recorded a 3P²⁷ level of total hydrocarbons reserves of 25,858 million barrels of crude oil equivalent (MMBCOE), 1.1% less regarding 2016. According to the type of fluid, oil has the largest contribution (77.2%), condensate (0.7%), plant liquids (6.2%), and equivalent dry gas (15.8%). (see Table 2.11)

²⁷ Total of the proven, probable, and possible hydrocarbons reserves.



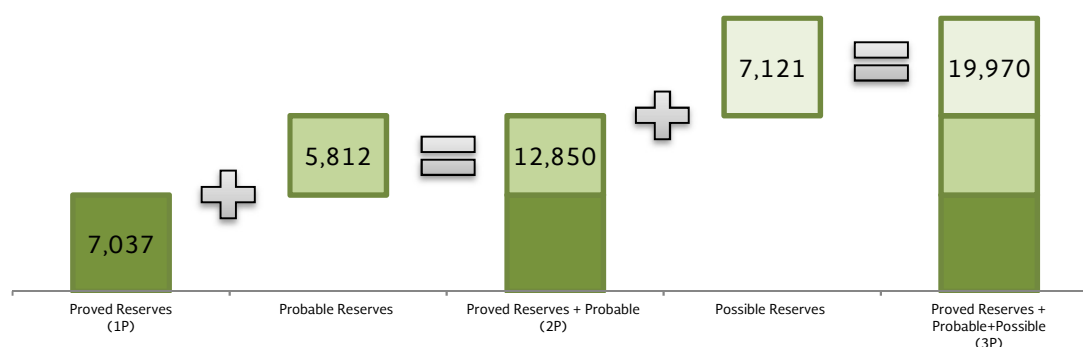
**TABLE 2. 11 DISTRIBUTION OF TOTAL HYDROCARBONS RESERVES BY TYPE OF FLUID,
2006 – 2017**
(MBD)

Concept	Annual Data												AAGR 2006- 2017
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Total	46,417.5	45,376.3	44,482.7	43,562.6	43,074.7	43,073.6	43,837.3	44,530.0	42,158.4	37,404.8	26,140.0	25,858.0	-5.2
Oil	33,093.0	31,908.8	31,211.6	30,929.8	30,497.3	30,559.8	30,612.5	30,816.5	29,327.8	25,825.1	19,455.0	19,970.0	-4.5
Condensate	863.0	941.2	879.0	561.7	417.3	294.1	367.8	328.1	295.6	260.2	193.0	187.0	-13.0
Plant Liquids	3,479.4	3,417.5	3,574.7	3,491.3	3,563.1	3,573.3	3,953.1	4,010.4	3,575.0	2,914.7	1,822.0	1,606.0	-6.8
Dry Gas Equivalent	8,982.2	9,108.9	8,817.4	8,579.7	8,597.0	8,646.5	8,903.9	9,375.0	8,960.1	8,404.8	4,670.0	4,095.0	-6.9

Source: Elaborated by SENER with information from CNH.

The remaining total reserves of crude oil (3P) exceeded by 2.6% what estimated in 2016; such reserves were formed by 35.2% of proven reserves, 29.1% of probable reserves, and 35.7% of possible reserves (see Figure 2.2).

FIGURE 2. 2 OIL REMAINING TOTAL RESERVES IN MEXICO TO JANUARY 1ST, 2017
(MMBCOE)



Source: Elaborated by SENER with information from CNH.

According to its classification by density²⁸ (see Table 2.12):

- Proven Reserves 1P: heavy oil contributed with 58.8%; middle oil, 15.6%; light oil, 14.8%; ultra-light oil, 6.1%; extra-heavy, 3.1%; and Round 1 with 1.6%.
- Reserves 2P (Proved + Probable): were formed with 53.2% of heavy oil; 21.3%, middle oil; 14.5%, light oil; 5.3%, ultra-light oil; 3.7%, extra heavy; and 2.0% from Round 1.
- Reserves 3P (Proved + Probable + Possible): correspond 46.8% to heavy oil; 21.5%, middle oil; 14.0%, light oil; 8.4%, ultra-light; 7.2%, extra heavy; and 2.1% to Round 1.

²⁸ There is no classification by type of oil for reserves reported in fields put out to tender until having the operator's classification.

TABLE 2. 12 COMPOSITION OF THE OIL REMAINING RESERVES BY TYPE, 2012 - 2017
(MMB)

Reserve	Type	Annual Data						AAGR 2012-2017	Variation (%) 2016/2015
		2012	2013	2014	2015	2016	2017		
1P	Extra-Heavy	222.1	228.7	262.5	318.5	772.0	217.7	-0.4	-31.6
	Light	2004.9	2008.0	1932.1	2025.6	1559.3	1043.7	-12.2	-48.5
	Medium	1574.0	1600.0	1586.2	1571.6	1241.5	1098.2	-6.9	-30.1
	Heavy	5398.0	5425.2	5275.9	5156.0	3612.1	4135.5	-5.2	-19.8
	Ultra-Light	826.1	811.3	755.4	639.2	455.8	428.5	-12.3	-33.0
	Round 1*	NA*	NA*	NA*	NA*	NA*	113.5	NA*	NA*
	Total		10025.0	10073.0	9812.0	9711.0	7641.0	7037.0	-6.8
2P	Extra-Heavy	542.0	607.0	625.0	623.4	1482.3	473.4	-2.7	-24.1
	Light	4459.5	4605.7	4350.9	4136.6	2682.4	1862.8	-16.0	-55.0
	Medium	3444.1	3585.5	3438.1	3242.7	2949.8	2732.8	-4.5	-15.7
	Heavy	8619.9	8307.1	7796.1	7340.9	4375.1	6834.9	-4.5	-6.9
	Ultra-Light	1507.7	1424.9	1402.2	1131.8	705.5	684.5	-14.6	-39.5
	Round 1*	NA*	NA*	NA*	NA*	NA*	261.1	NA*	NA*
	Total		18573.0	18530.0	17612.0	16475.0	13273.0	12850.0	-7.1
3P	Extra-Heavy	1674.0	1667.1	1773.3	1757.9	2767.6	1432.3	-3.1	-18.5
	Light	8258.9	8276.7	7562.1	6584.3	3801.0	2800.8	-19.4	-57.5
	Medium	6406.0	6875.5	6261.7	5428.4	4363.1	4290.8	-7.7	-21.0
	Heavy	11589.2	11194.1	10884.0	9972.6	5261.7	9351.2	-4.2	-6.2
	Ultra-Light	2684.5	2803.2	2846.7	2081.8	1316.7	1669.0	-9.1	-19.8
	Round 1*	NA*	NA*	NA*	NA*	NA*	426.2	NA*	NA*
	Total		30613.0	30817.0	29328.0	25825.0	19455.0	19970.0	-8.2

* NA: Not applicable.

Source: Elaborated by SENER with information from CNH.

According to its classification by location:

- Proven Reserves: 75.6% is located in shallow waters, and 24.4% onshore.
- Probable Reserves: the largest concentration is found in shallow waters with 67.1%, and 32.9% onshore.
- Possible Reserves: 58.6% is recorded in shallow waters; 40.9%, onshore; and 0.5%, in shallow waters.

By location, the largest share comes from reserves in shallow waters (see Table 2.13).



TABLE 2. 13 OIL RESERVES BY LOCATION, 2016 - 2017
(MMB)

Location	Possible		Probable		Proved		Total	
	2016	2017	2016	2017	2016	2017	2016	2017
Depp Water	258.1	32.6	0.0	0.0	0.0	0.0	258.1	32.6
Shallow Water	3864.0	4176.1	3410.2	3899.3	5695.8	5322.9	12970.0	13398.3
Onshore	2060.0	2912.0	2222.1	1913.2	1944.9	1714.2	6227.0	6539.4
Total	6182.1	7120.8	5632.3	5812.5	7640.7	7037.0	19455.1	19970.3

Source: Elaborated by SENER with information from CNH.

2.2.2 Exploration and Production

On March 2017, the SENER published the New Strategy for the Quinquennial Plan for the Exploration and Extraction of Hydrocarbons 2015-2019, which opens for nomination all the areas in deep waters, shallow waters, onshore non-conventional, and onshore conventional.

This New Strategy for the Quinquennial Plan will bring up the necessary conditions for Mexico to take full advantage of 579 contractual areas which sum up a 239,007.3 km² surface and is intended to revert the decline in the domestic production and to increase the reserves' restitution rate²⁹.

2.2.2.1 Rounds

Round Zero³⁰

Process to allocate contractual areas carried out by the SENER, with the technical assistance of the CNH, which consisted in allocating assignments to Pemex in order to strengthen this State Productive Enterprise. To August 13, 2017, Pemex has a total of 462 Assignations, from which 119 have rights for exploration and extraction, 271 for extraction, and 72 that correspond to production fields to be assigned when the State put them out to tender.

Round One³¹

Round One included 54 contractual areas to explore and extract hydrocarbons, covering a surface of more than 29 thousand km², and which were allocated as described in Table 2.14.

²⁹ Quinquennial Plan for the Exploration and Extraction of Hydrocarbons 2015-2019, New Strategy.

³⁰ https://www.gob.mx/cms/uploads/attachment/file/200397/Plan_Quinquenal_2017_vf_140320173.pdf

³¹ https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

TABLE 2. 14 CONTRACTING AREAS, ROUND ONE

Tender and Issuing Date	Contractual Areas Tendered	Total Surface of the Blocks Tendered (km ²)	Winning Companies (Some in consortium)
First Call December 2014	14 contractual areas for exploring and extracting hydrocarbons in shallow water under the modality of shared production.	4222	3
Second Call February 2015	5 contractual areas for allocating shared-production agreements for the exploration and extraction of hydrocarbons in nine grouped fields in shallow water.	280	5
Third Call May-15	25 contractual areas for extracting hydrocarbons in onshore zones.	777	22
Fourth Call December 2015	10 areas with a license agreement in deep water and ultra-deep water.	23835	13

Source: Quinquennial Plan for the Exploration and Extraction of Hydrocarbons 2015-2019.

Round Two³²

Round Two considered discoveries which will increase the level of proven and probable reserves. To date, three tenders have been carried out and are broken down in Table 2.15.

TABLE 2. 15 CONTRACTUAL AREAS, ROUND TWO

Tender and Issuing Date	Contractual Areas Tendered	Total Surface of the Blocks Tendered (km ²)	Winning Companies (Some in consortium)
First Call July 2016	15 contractual areas under the modality of shared production.	8900	12
Second Call August 2016	10 contractual areas for onshore exploration with proved capacity production.	4221	4
Third Call November 2016	14 contractual areas under the modality of license agreement.	2595	11

Source: Quinquennial Plan for the Exploration and Extraction of Hydrocarbons 2015-2019.

On July 19, 2017, the fourth Call for Round Two was presented to put out to tender deep-waters areas, which will include 29 contractual areas to be put out to tender under the modality of license, and which cover a total surface of 66,466 km².

³² https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

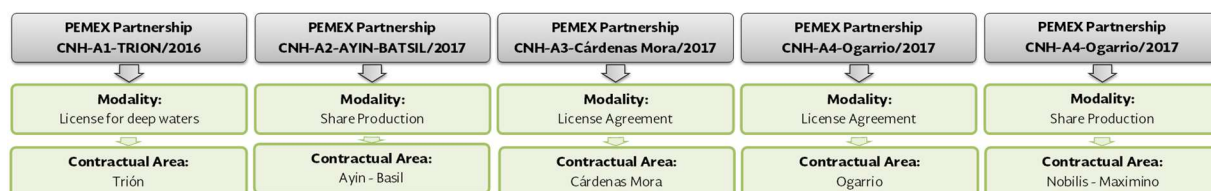
Round Three³³

The first Call for Round Three was published on September 29, 2017. This round is comprised by 35 areas to explore and extract hydrocarbons in shallow waters under the modality of share production. Such areas cover a total surface of 26,265 km² divided into three sectors: Burgos, Tampico-Misantla-Veracruz, and Southeast Basins, and account for approximately 1,988 MMBCOE of prospective resources, and a remaining volume of 290 MMBCOE.

2.2.2.2 Pemex Strategic Partnerships: Farmouts³⁴

The tender process for selecting partners to explore and extract hydrocarbons strengthens Pemex strategy of increasing the resources availability to raise the production and speed up its financial recovery³⁵. This State Productive Enterprise's partnerships in Farmouts are displayed in Figure 2.3.

FIGURE 2. 3 PEMEX PARTNERSHIPS IN FARMOUTS



Source: Elaborated by SENER with information from CNH.

2.2.3 Exploratory Activity of Hydrocarbons

In 2016, 149 wells were completed, from which 21 were exploration wells and 128, developmental. Regarding 2015, wells drilling decreased 52.2% due to a lesser programming of developmental wells, as well as to a shift in the exploratory strategy and which resulted in a decrease in the drilling activity of the Assets. However, the success achieved in wells completion was of 30.0%, and of 90.0% for production wells (see Table 2.16).

In 2016, there were a total of 404 production wells, a decrease of 6.9% regarding 2015. From this total, 53.9% corresponded to oil and associated gas, and 46.1% to non-associated gas fields.

³³ https://www.gob.mx/cms/uploads/attachment/file/261225/Programa_Quinquenal_sep_2017.pdf

³⁴ <http://rondasmexico.gob.mx/>

³⁵ http://www.pemex.com/saladeprensa/boletines_nacionales/Paginas/2017-021-nacional.aspx

TABLE 2. 16 WELLS DRILLING AND FIELDS EXPLOITATION, 2006-2016

Concept	Annual Data										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wells drilled^a	672	615	822	1,490	994	1,000	1,290	705	538	278	126
Wells completed	656	659	729	1,150	1,303	1,034	1,238	823	535	312	149
Exploratory wells	69	49	65	75	39	33	37	38	24	26	21
Productive	32	26	27	29	23	16	21	23	8	13	6
% success	50	50	40	40	60	50	60	60	30	50	30
Developmental wells	587	610	664	1,075	1,264	1,001	1,201	785	511	286	128
Productive	541	569	612	1,014	1,200	955	1,159	747	484	266	110
% success ^b	90	90	90	90	90	10	10	10	90	90	90
Drilling equipment^c	105	119	147	176	130	128	136	139	106	67	27
<u>Exploratory equipment</u>	25	23	34	26	19	17	17	21	14	12	8
Onshore	16	14	21	18	13	12	12	13	4	1	1
Offshore	9	9	13	8	6	5	5	8	10	11	7
<u>Devopmental equipment</u>	79	96	113	150	111	111	119	118	92	55	19
Onshore	57	68	86	128	89	91	96	68	51	32	8
Offshore	22	28	27	22	22	20	23	50	41	23	11
Fields discovered^d	21	20	19	25	18	12	15	13	7	6	5
Oil	6	8	9	15	8	7	6	5	4	6	5
Gas	15	12	10	10	10	5	9	8	3	0	0
Wells in operation	5,998	5,942	6,247	6,814	7,414	8,271	9,476	9,379	9,077	8,826	8,871
<u>Crude and associated-gas producers</u>	3,126	2,884	3,127	3,713	4,406	5,193	6,188	6,164	5,598	5,374	5,445
Onshore	2,716	2,459	2,681	3,263	3,942	4,694	5,655	5,613	5,038	4,840	4,936
Offshore	410	425	446	450	464	499	533	551	560	534	509
<u>Nonassociated-gas producers</u>	2,872	3,058	3,120	3,101	3,008	3,078	3,288	3,215	3,479	3,452	3,426
Onshore	2,872	3,058	3,120	3,101	3,008	3,078	3,288	3,215	3,479	3,452	3,426
Offshore	0	0	0	0	0	0	0	0	0	0	0
Production fields	364	352	345	394	405	416	449	454	448	434	404
<u>Crude and associated-gas producers</u>	214	200	191	220	235	251	266	272	262	253	218
Onshore	184	170	161	187	201	215	228	230	220	212	177
Offshore	30	30	30	33	34	36	38	42	42	41	41
<u>Nonassociated-gas producers</u>	150	152	154	174	170	165	183	182	186	181	186
Onshore	150	152	154	174	170	165	183	182	186	181	186
Offshore	0	0	0	0	0	0	0	0	0	0	0

a. Wells drilled to objective.

b. Excludes injection drills.

c. Average number of equipment.

d. Includes only fields with proven reserves. In 2007, the fields Kibo-1 and Lalail-1 were excluded because, even if they were productive, they did not incorporate proven reserves.

Source: Elaborated by SENER with information from CNH.



2.2.4 Refining National System

Before the Reform, PEMEX subsidiaries, PEMEX-Refining, PEMEX-Gas and Basic Petrochemistry, and PEMEX-Petrochemistry were in charge of carrying out activities of refining, transformation, processing, import, export, commercialization, retailing, manufacturing, and trading of hydrocarbons and oil products. After the Declaratory to put into effect the Agreement for Creating the State Productive Enterprise Subsidiary of Petroleos Mexicanos, called PEMEX Industrial Transformation³⁶ (PEMEX TRI), which would be in charge of these activities.

According to the latter, PEMEX TRI can perform operations related, directly or indirectly, to its subject, and it has the right to celebrate with natural or legal persons, national or foreign, any kind of acts, agreements, contracts, in accordance with the current legislation applicable to each activity.

2.2.5 Refining Capacity

In order to obtain final consumption products, crude oil should be subjected to diverse physical and chemical refining processes. In Mexico, the six refineries which make up the SNR with primary³⁷ processes of atmospheric distillation, vacuum distillation, secondary processes for catalytic and thermal cracking, viscosity reduction, naphthas reforming, hydrodesulfurization, alkylolation and isomerization, and, three of them (Cadereyta, Madero, and Minatitlan), with coking process.

In 2016, PEMEX TRI had a refining capacity³⁸:

- 1,602.0 MBD of oil atmospheric distillation;
- 1,203.0 MBD of hydrodesulfurization;
- 768 MBD of vacuum distillation;
- 423 MBD of catalytic disintegration;
- 279 MBD of naphthas reforming;
- 156 MBD of coking;
- 154 MBD of alkylolation and isomerization;
- 91 MBD of viscosity reduction.

2.2.6 Oil Processing in the SNR

In 2016, the SNR processed a total of 933.1 MBD, a volume less in 12.3% regarding 2015, a result of the stations scheduled maintenance, performance of unforeseen maintenance and refurbishment related to the quality of the crude oil received from the production areas, as well as less processing due to the optimization of the SNR (see Table 2.17).

³⁶ On October 6, 2015, the DOF published the Declaratory to put into effect the Agreement for Creating the State Productive Enterprise Subsidiary of Petroleos Mexicanos, called PEMEX Industrial Transformation, issued by the Board of Directors of Petroleos Mexicanos.

³⁷ This is the first stage of crude-oil processing and in which are obtained primary products such as gasoline, kerosene, jet fuel, diesel, gasoil, and heavy residues.

³⁸ <http://www.pemex.com/ri/Publicaciones/Anuario%20Estadistico%20Archivos/anuario-estadistico-2016.pdf>

During 2016, the SNR processed 57.1% of light crude oil and 42.8% of heavy crude. 63.3% of heavy crude processing was performed in the refineries of Cadereyta, Madero, and Minatitlán, since their facilities have residual oil conversion processes; while Salamanca, Tula, and Salina Cruz processed the largest volume of crude oil.

In 2017, Pemex started investing in the development of varied actions for improving the SNR's operational efficiency:

- The Training Center Tula was opened in the Refinery Miguel Hidalgo to strengthen its human capital and ensure the highest standards for operational quality, and environmental safety and protection, where oil workers will be trained.
- The fractionating column of the coking plant was installed in the Refinery Miguel Hidalgo to raise the gasolines, diesel, and jet fuel production. The upgrading of Tula's Refinery will increase its yield by more than 40%; 74 MBD of heavy fuel oil will be converted un 48 MBD of UBA (ultra-low sulfur) gasoline; 44 MBD of ultra-low sulfur diesel (ULSD); and 5 MBD of jet fuel. In addition, 3 thousand tons per day of petroleum coke will be generated, which could be used in the cement kilns of the region.

TABLE 2. 17 CRUDE PROCESSING BY REFINERY, 2015 - 2016
(MBD)

Crude-Oil Processing byRefinery						
Refinery	Heavy		Light		Reconstituted*	
	2015	2016	2015	2016	2015	2016
Total	482.3	399.4	581.2	532.8	1.0	0.9
Cadereyta	87.4	69.3	71.2	52.8	0.0	0.0
Madero	122.0	85.2	7.4	2.1	0.0	0.0
Minatitlán	115.3	98.4	36.4	14.1	0.0	0.0
Salamanca	24.9	31.5	123.1	138.5	0.9	0.9
Salina Cruz	80.3	70.4	159.4	168.3	0.0	0.0
Tula	52.4	44.5	183.7	157.1	0.0	0.0

* Includes topped oil, penthanes, light naphtha from Cangrejera, light naphtha from Cactus, gasoline from Poza Rica and Madero
Source: PEMEX, Institutional Database.

2.2.7 Oil Production

In 2016, the oil domestic production reached 2,153.5 MBD, 5.0% less than the previous year (equivalent to 113.3 MBD). According to its classification by location, 79.0% of crude oil came from offshore fields, and 21.0% from onshore fields. (see Figure 2.4)

FIGURE 2. 4 OIL DOMESTIC PRODUCTION BY LOCATION, 2006 -2016
(MBD)



Source: Elaborated by SENER with information from CNH.

2.2.8 Oil Products Production

In 2016, the SNR's oil products production was of 803.9 MMBDCOE³⁹, 13.7% less compared to 2015 (see Figure 2.5). This decrease is mainly due to a 12.3%⁴⁰ less of processed crude, the result of a 4.8%⁴¹ decrease in the volume of oil supplied by producing fields and to operating problems in the SNR stations due to the crude received from the production areas.

From the oil products total production:

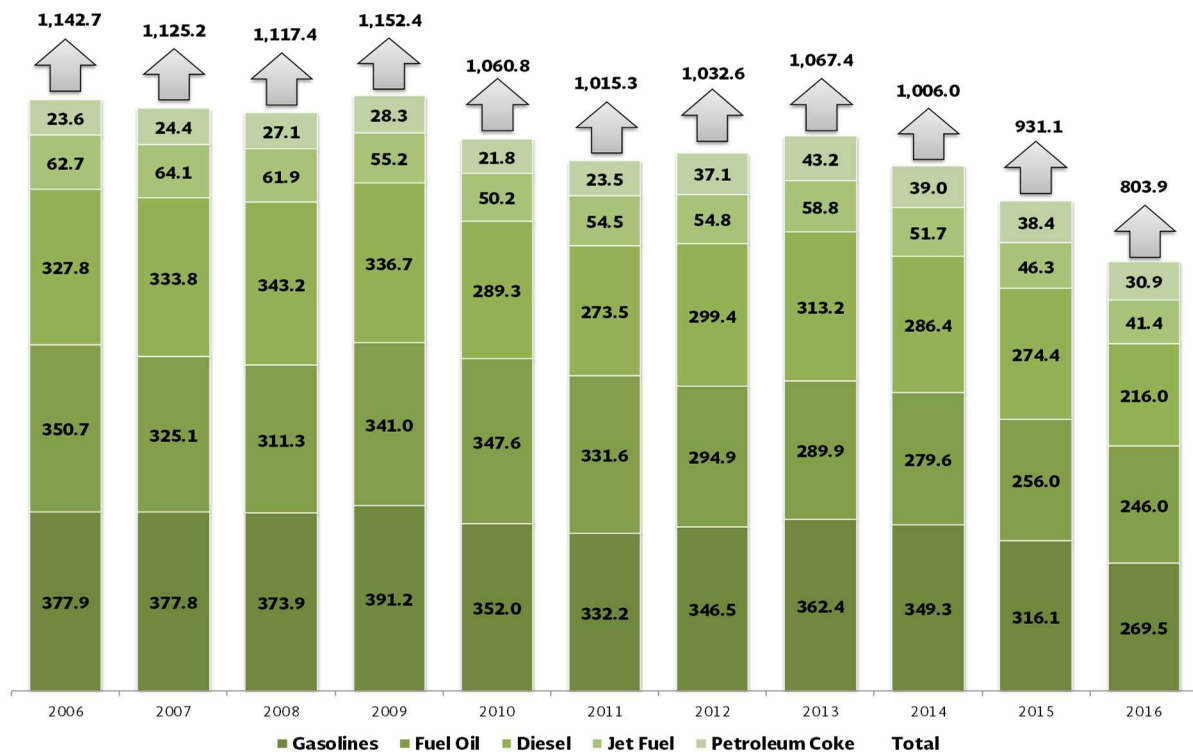
- 33.5% was focused on obtaining gasolines
- 26.9% on diesel
- 30.6% on fuel oil
- 5.2% on jet fuel
- 3.8% on petroleum coke

³⁹ Since the unit of measurement of some oil products differ, MBD and MTA, it is expressed in MBCOED (energy) to make them comparable and avoid units of volume.

⁴⁰ Estimated with information from the SIE.

⁴¹ Estimated with information from the SIE.

FIGURE 2. 5 OIL PRODUCTS PRODUCTION IN THE SNR, 2006 -2016
(MBDCOE)



Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

During 2016, there were produced 269.5 MBDCOE of gasoline, 14.7% less compared to 2015. 60% of this fuel came from the refineries in Tula, Salina Cruz, and Salamanca. It is worth mentioning that the Salamanca Refinery was the only working center that increased its gasolines production by 27.7% regarding 2015 (see Figure 2.6).

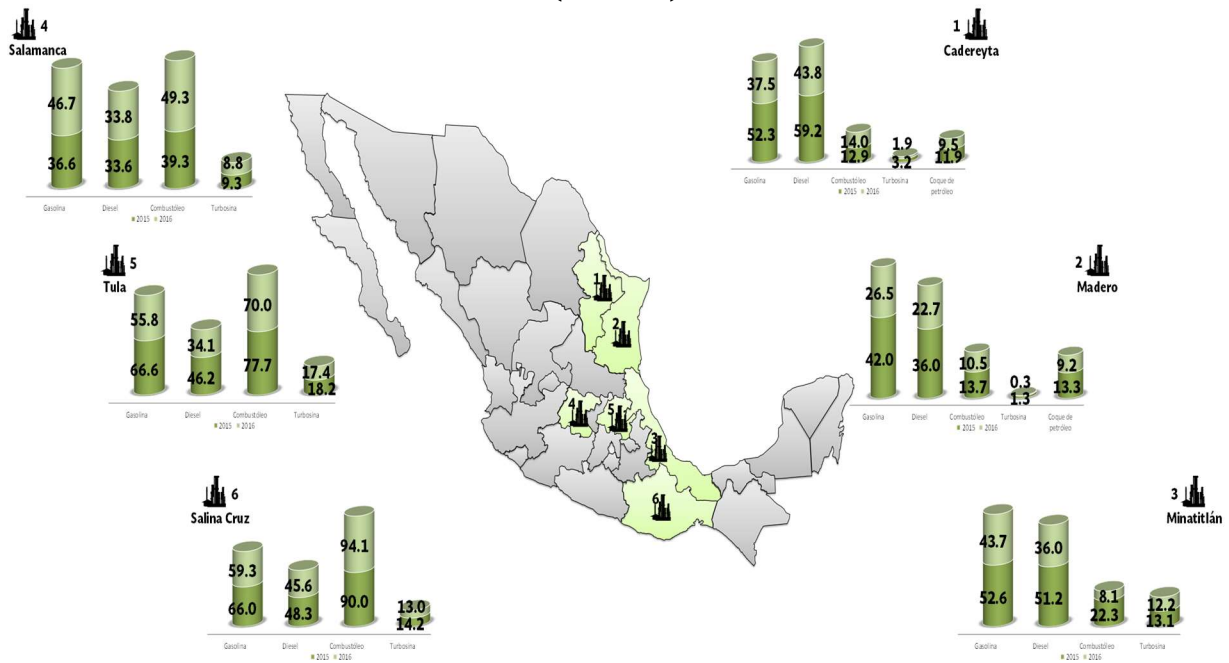
The production of intermediate distillates was of 216 MBDCOE for diesel and 41.1 MBDCOE of jet fuel, a decrease of 21.3% and 10.5%, respectively, regarding 2015.

The Refineries of Cadereyta, Minatitlan, and Salina Cruz concentrated 58.1% of the diesel production, while the largest production of jet fuel was recorded in Tula, Salina Cruz, and Salamanca, which produced 94.6% of this oil product.

As for the production of residual fuels, the production of fuel oil decreased in 3.9% in 2016, reaching 246.0 MBDCOE. The refineries with the largest production were the ones that do not have deep conversion units for residuals, as Tula, Salamanca, and Salina Cruz. The production of petroleum coke was of 30.9 MBDCOE, a decrease of 19.4% regarding 2015.



FIGURE 2. 6 OIL PRODUCTS PRODUCTION BY REFINERY, 2015 -2016
(MBDCOE)



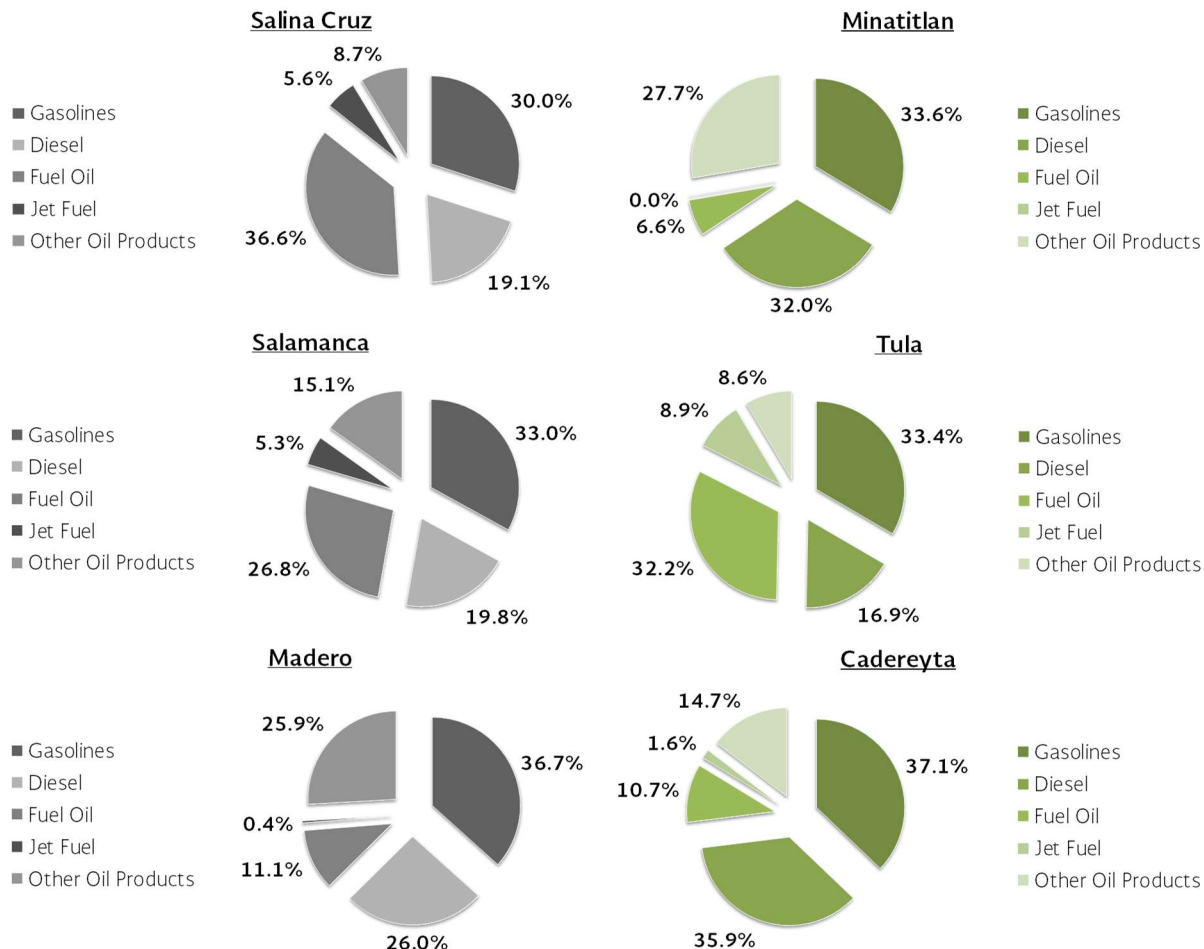
Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

2.2.8.1 Production Yields

The yields obtained from crude depend on its quality as well as on the structure and characteristics of the refinery from where it comes. The refineries with deep conversion processes are able to process a larger volume of heavy crudes and have higher yields of light and intermediate distillates. The refineries which do not have deep conversion processes require a larger proportion of light crude to obtain high yield percentages of light and intermediate distillates.

During 2016, the refineries of Cadereyta, Madero, and Minatitlan displayed the highest yields of gasolines and diesel, due to their coking process. The refineries which processed the largest volume of light crude were Tula, Salina Cruz, and Salamanca (see Figure 2.7).

FIGURE 2. 7 CRUDE YIELDS IN OIL-PRODUCTS PRODUCTION, 2016
(percentage distribution)



Source: Elaborated by IMP, based on information from PEMEX.

2.2.8.2 Service Stations

Starting January 1st, 2016, private parties with gasoline stations and tank cars to transport gasoline and diesel to service stations, should obtain a permit from the CRE to operate. In October 2016, the CRE established that the new contracts for commercialization and first-hand sales (FHS), should not be subjected to the submission or termination of franchise contracts, neither to the exclusive acquisition of services or products from Pemex, nor to the restrictions or conditions within the stockholding structure of the customers. According to the Hydrocarbons Law, it was foreseen that supplying contracts would be finalized by December 31st, 2016, and if the case, new contracts will be signed by January 2017, reflecting the disaggregation of services.

To September 30, 2017, Mexico had 11,729 service stations managed under different company names and franchise schemes.

To December 2017:

- There are more than 30 new trading franchises within the market in matters of oil products supply.



- The CRE has granted 14,336 permits which, according to the licensed activities for oil, oil products, and petrochemicals, are comprised by 1,744 transportation permits, 154 for storage, 276 for distribution, and 12,162 for retailing.

With the previous model of the monopolistic market, the import of gasolines, diesel, jet fuel, and fuel oil, was one of the chain value activities of oil products which was exclusive for the State for commercialization purposes, limiting private share. Since April 1st, 2016, the SENER granted import permits for the fuels mentioned above, in accordance with the Hydrocarbons Law, under the terms of the Foreign Trade Law, with the support of the Secretariat of Economy, as well as with the opinion of the SHCP.

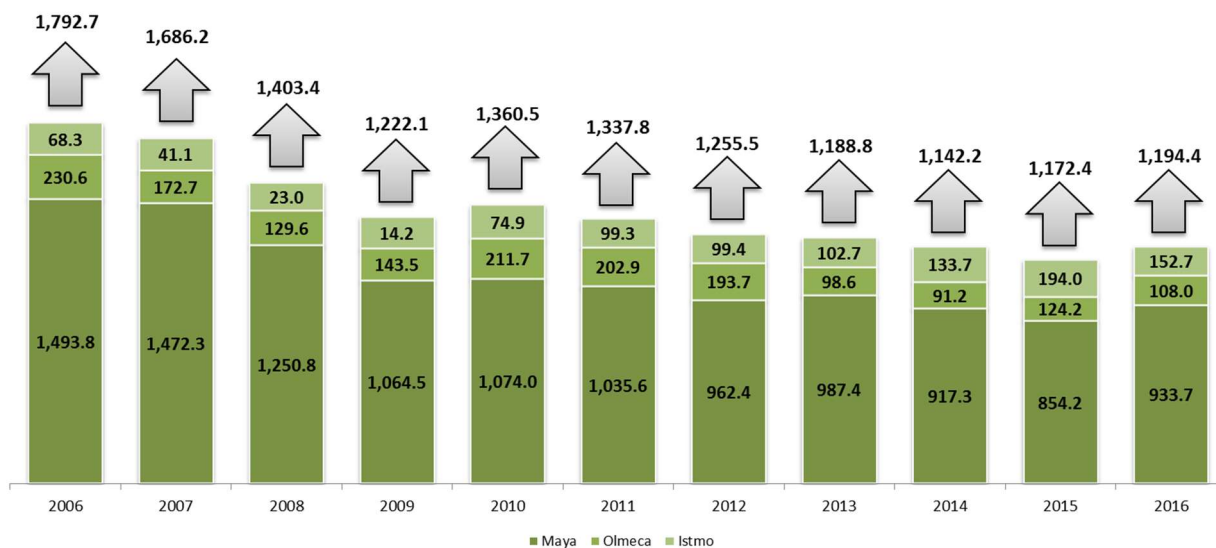
To December 20, 2017, a total of 870 permits to import oil products were still valid, from which 409 corresponded to diesel, 271 to gasolines, and 79 to jet fuel.

2.3 Trade

In 2016, the volume of crude sent to export terminals increased by 1.9%, attributable to the 9.3% increase in the heavy crude exports, which is related to the decrease of crude oil processed in the SNR due to the scheduled maintenance of stations, unforeseen maintenance and refurbishing works related to the quality of the crude received in the production areas, as well as to a decrease in programmed processing derived from the SNR optimization.

This increase counteracted the reduction of light and ultra-light crude destined to export terminals, which was of 152.7 MBD and 108 MBD in 2015; that is 13.1% and 21.3%, respectively, less than the average daily export in 2015 (see Figure 2.8).

FIGURE 2. 8 CRUDES BLEND TO EXPORT TERMINALS, 2006 - 2016
(MBD)

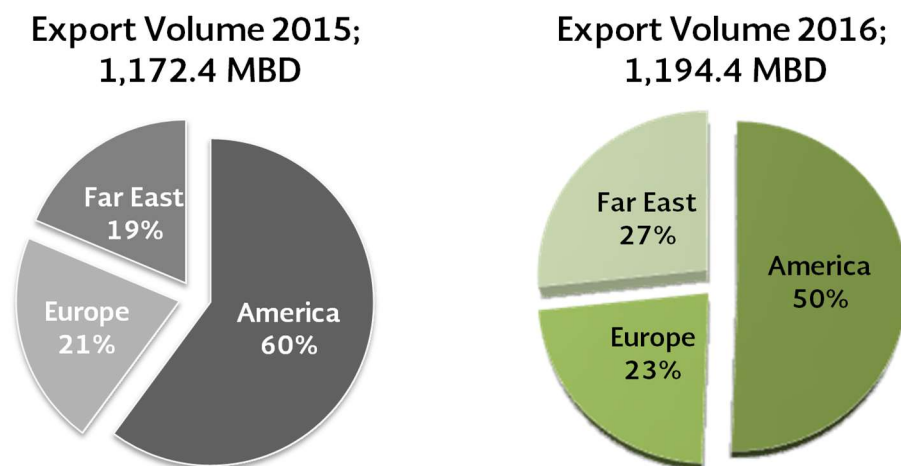


* Includes heavy oil Altamira.

Source: Elaborated by SENER with information from CNH.

In 2016, 50% of Mexican oil exports were oriented to the United States market, 10% less compared to 2015. A meaningful factor which contributed to this was the United States greater activity in the extraction of non-conventional crude, due to the discoveries of shale gas and the technological advances which have made this oil product, a profitable one. Other export markets were Europe with 23%, and Far East with 27% (see Figure 2.9).

FIGURE 2. 9 CRUDE EXPORTS DESTINATION BY COUNTRY, 2015 AND 2016 (MBD)



Source: Elaborated by IMP, based on information from PEMEX, SE, SENER and private companies.

In 2016, the import of oil products was of 716.7 MBDCOE, a rise by 23.9% compared to 2015, mainly a consequence of the low production in the SNR refineries, which are working below their capacity and produce a smaller volume of oil products to supply the domestic market, mainly gasolines and diesel (see Table 2.18).

TABLE 2. 18 BEHAVIOR OF OIL PRODUCTS IMPORTS, 2006-2016 (MBDCOE)

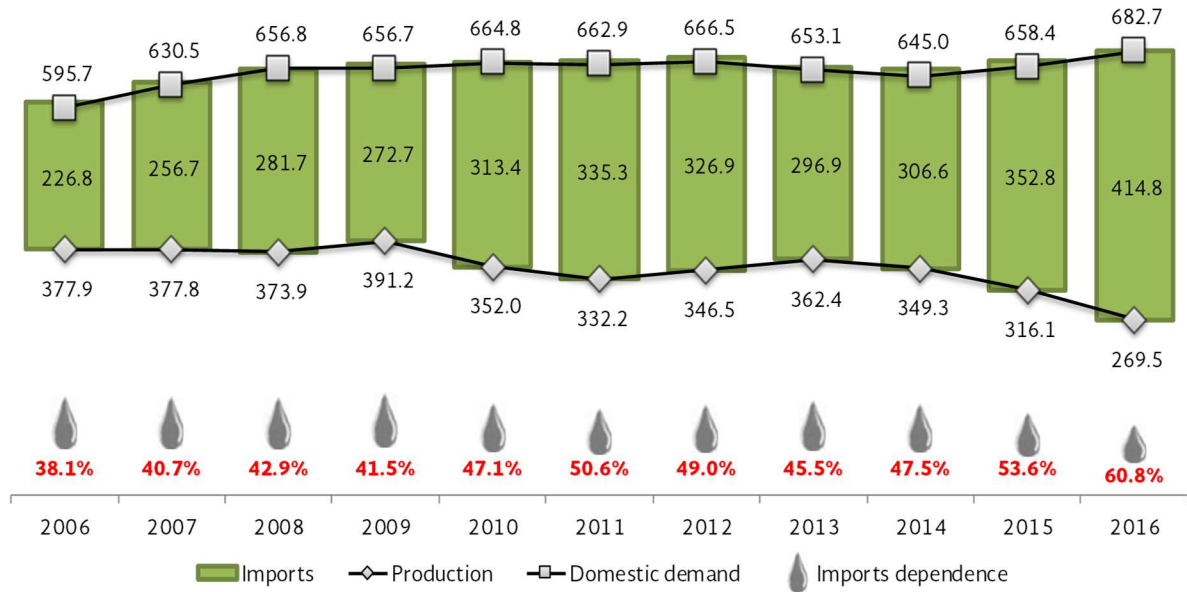
Fuel	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total	329.3	379.4	434.9	393.6	474.7	547.8	557.5	483	499.2	578.5	716.7	8.1
Fuel Oil	15.4	18.3	35.5	42.3	11.9	27	48.1	33.8	14	18.3	33	7.9
Diesel	41.2	52.7	68	47.6	107.9	135.6	132.7	107	132.8	145.2	187.9	16.4
Gasolines	226.8	256.7	281.7	272.7	313.4	335.3	326.9	296.9	306.6	352.8	414.8	6.2
Petroleum Coke	45.6	51.6	49.7	31.1	41.5	49.9	46.8	42.2	34.4	40	48.7	0.6
Jet Fuel	0.1	-	-	-	0.1	-	3	3.1	11.3	22.2	32.3	73.3

Source: Elaborated by IMP, based on information from PEMEX, SE, SENER and private companies.



The level of gasolines imports in 2016 was of 414.8 MBDCOE, 17.6% more regarding the previous year, and the result of a smaller production (14.7%) combined with an increase in the consumption (3.7%) of this oil product (see Figure 2.10).

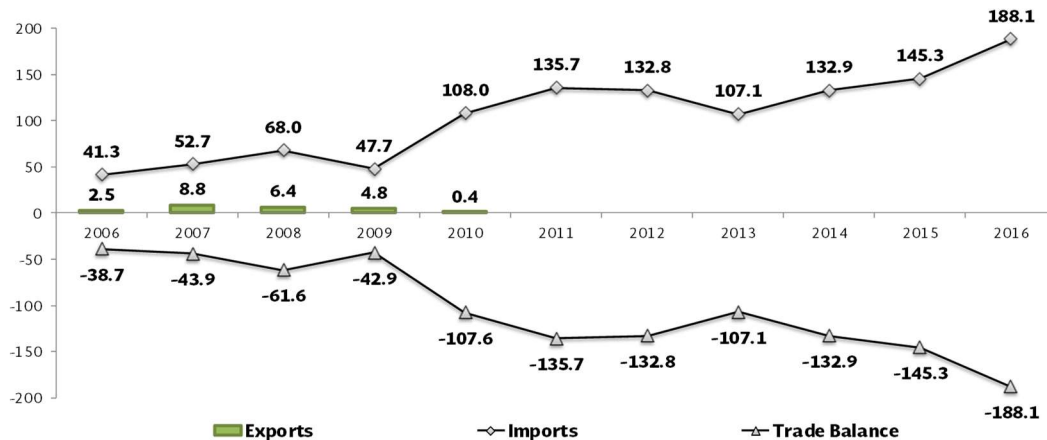
FIGURE 2. 10 PRODUCTION, DEMAND, AND IMPORT OF GASOLINES, 2006-2016
(MBDCOE)



Source: Elaborated by IMP, based on information from PEMEX.

The largest volume of diesel imports was recorded in 2016, going from 145.3 MBD in 2015 to 188.1 MBD, a rise by 29.4%. This oil product has not been imported since 2011, displaying thus, a trade deficit (see Figure 2.11).

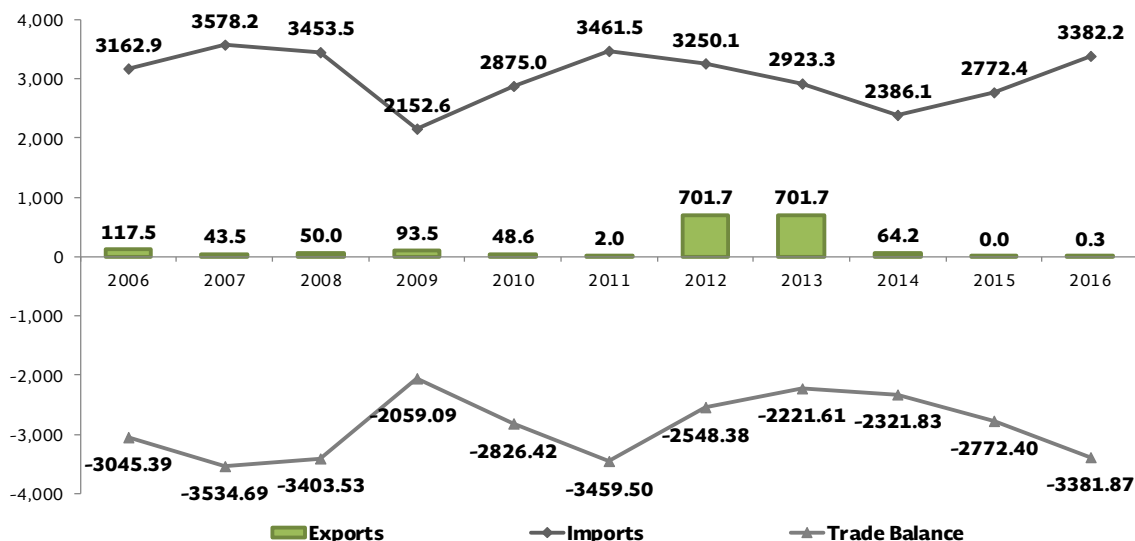
FIGURE 2. 11 DIESEL IMPORTS AND EXPORTS, 2006-2016
(MBD)



Source: Elaborated by IMP, based on information from PEMEX.

The production volume of petroleum coke was insufficient during 2016 to meet the domestic consumption needs; hence, imports raise 21.9% regarding 2015, reaching 3,382.1 thousand tons per year (MTA), with a trade deficit (see Figure 2.12)

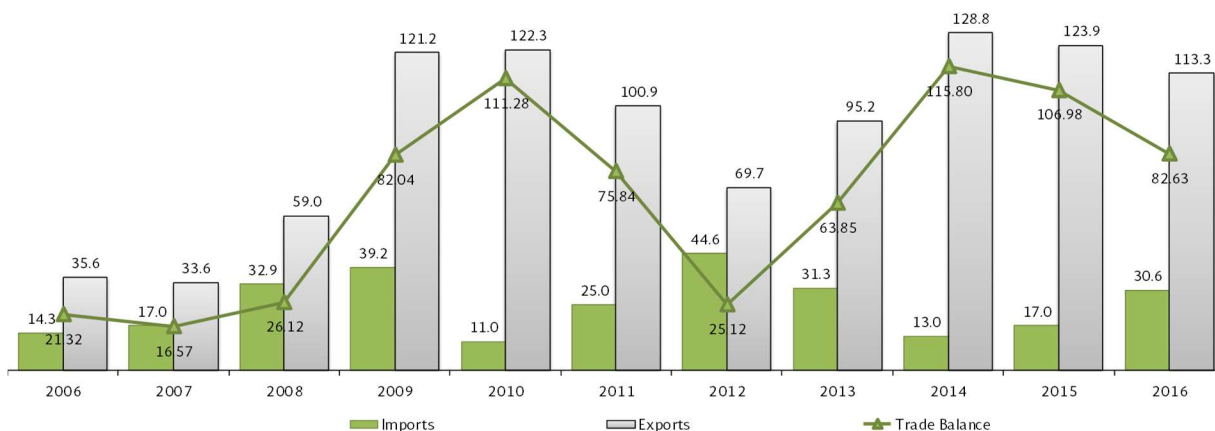
FIGURE 2. 12 PETROLEUM COKE IMPORTS AND EXPORTS, 2006-2016
(MTA)



Source: Elaborated by IMP, with information from Pemex, SE, SENER and private companies.

In 2016, fuel oil was the only fuel with a share in the imports of oil products, recording 113.3 MBD average; nonetheless, it decreased 8.6% regarding 2015. Through the implementation of policies intended to reduce greenhouse gas emissions (GHG), such as PEMEX and the CFE replacing fuel oil with natural gas, reduces fuel oil usage and filled up this fuel's inventories for the foreign market. On the other hand, fuel oil imports increased by 80.6%, going from 17.0 MBD in 2015 to 30.6 MBD in 2016 (see Figure 2.13).

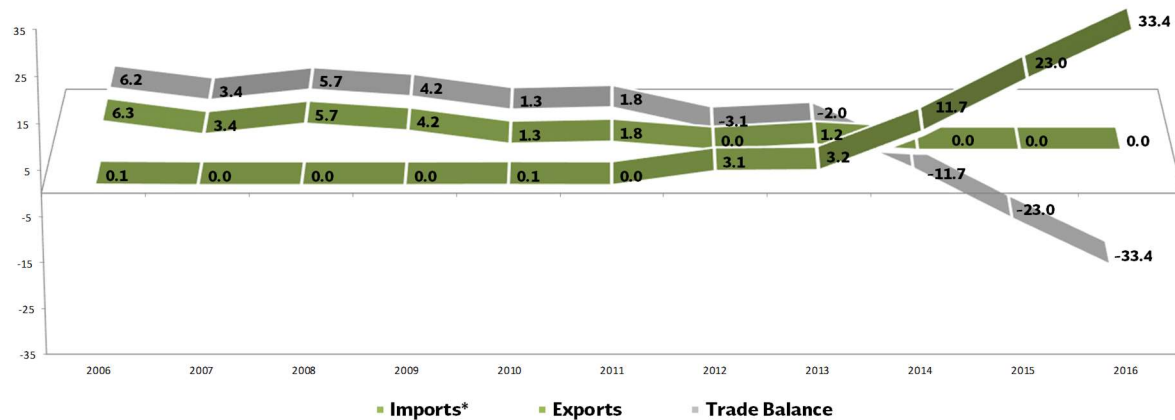
FIGURE 2. 13 FUEL-OIL IMPORTS AND EXPORTS, 2006-2016
(MBD)



Source: Elaborated by IMP, with information from Pemex.

In 2016, 43.8% of the jet-fuel domestic demand was supplied with imports, which recorded a volume of 33.4 MBD. Since 2010, the jet-fuel domestic demand overpassed its production capacity, making it necessary to cover this consumption with imports (see Figure 2.14).

FIGURE 2. 14 JET FUEL IMPORTS AND EXPORTS, 2006-2016
(MBD)



*Includes maquila.

Source: Elaborated by IMP, with information from PEMEX and SENER.

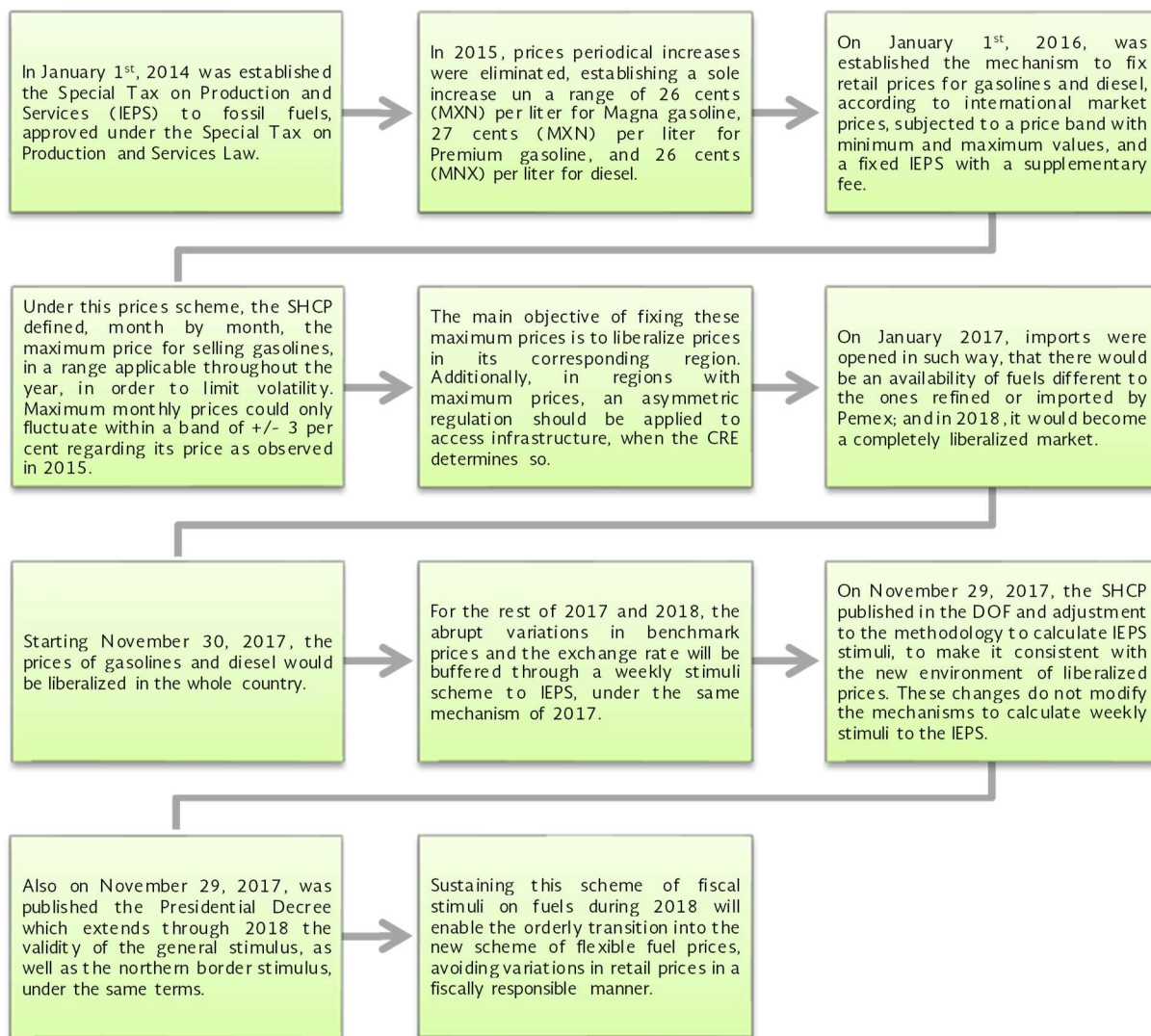
2.4. Prices

2.4.1 Domestic

The H. Congress of the Union approved on October 26, 2016 the economic package for tax year 2017, which includes the liberalization of fuels prices, and the mechanisms of the Federal Revenue Law to control unjustified escalations of fuels prices during the Tax Year 2017 (LIF 2017).

The LIF 2017 established the liberalization of gasolines and diesel prices would be a gradual and orderly, for which the Energy Regulatory Commission (CRE), with the opinion of the Federal Economic Competition Commission (COFECE), established the criteria and schedule for the liberalization of regions in 2017 (see Figure 2.15).

FIGURE 2. 15 LIBERALIZATION OF GASOLINES AND DIESEL PRICES



Source: Elaborated by SENER with information from SHCP.

2.4.2 International

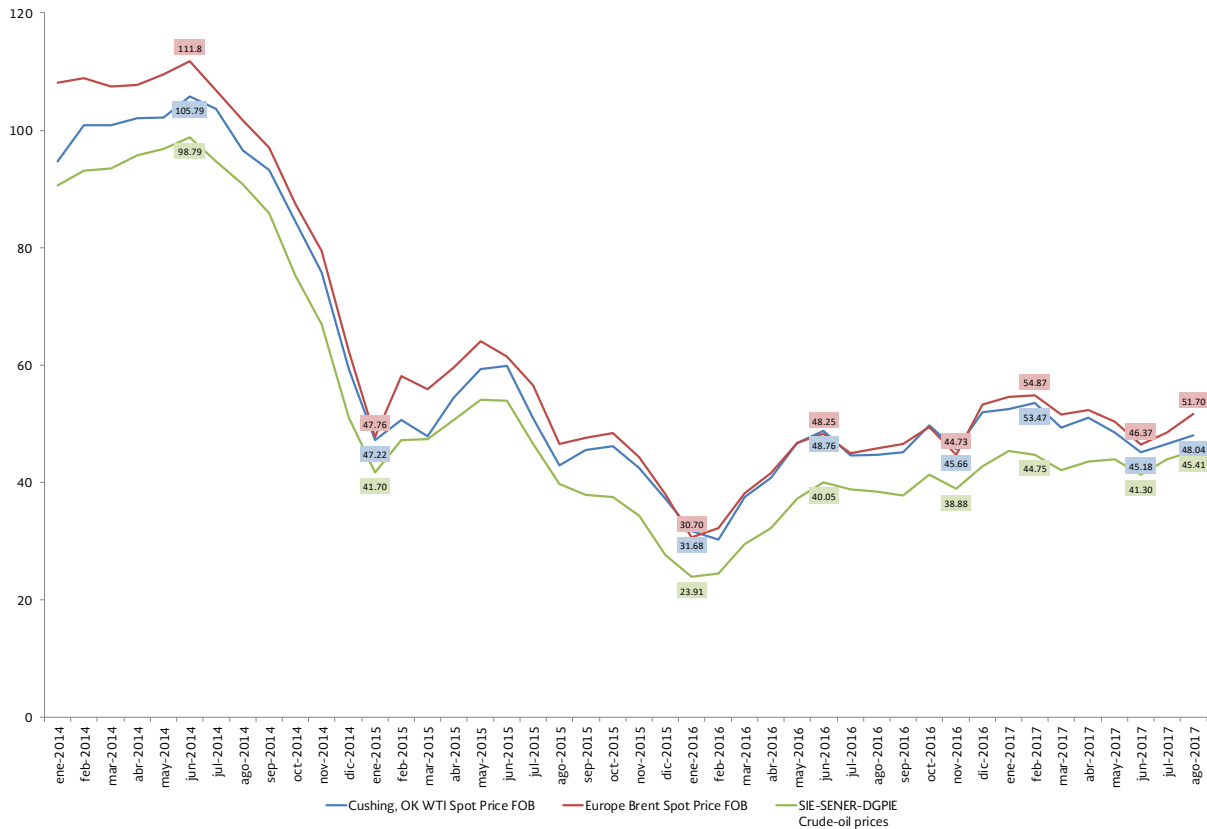
In 2014 it was observed a meaningful decrease in the crude international price. During the first semester, the Brent and West Texas Intermediate (WTI) oil prices averaged \$108.93 and \$101.05 USD per barrel (dpb), respectively; while the Mexican Oil Blend for Export (MME, for its Spanish acronym) reached \$94.75 dpb (see Figure 2.16).

A larger demand from emerging economies, mainly China, brought about a rise of crude oil and an increase in the production of this fuels suppliers, causing an imbalance between supply and demand in the global oil market, as well as a sharp fall in crude oil prices.



For the second semester of 2014, the Brent crude price benchmark had a drastic fall of 44.2%, dropping from 111.8 dpb on June 2014, to 62.34 dpb on December of that same year; the WTI stood 44.0% less dropping from 105.79 dpb to 59.29 dpb in the same period. The MME price shrank 48.4% (98.79 dpb) from June to December (50.98 dpb) 2014.

FIGURE 2. 16 BENCHMARK PRICES
(Dollars per barrel)



Source: Elaborated by SENER with information from SIE, Cushing, OK WTI Spot Price FOB and Europe Brent Spot Price FOB

The main factors which contributed to the fall of benchmark prices were the following:

- Lack of agreement within the Organization of the Petroleum Exporting Countries (OPEC) to define an extraction level, when it decided to maintain their production levels⁴² despite the sharp fall of crude prices and the significant amount of the inventories levels.
- The introduction of the United States as an oil producing power, particularly, its development of new technologies with less investment requirements and shorter production horizons⁴³.
- Expectations about additional increases in the global supply from the recent elimination of economic sanctions to Iran, and, to a lesser extent,
- The progressive deterioration of the world growth perspectives and weakness in the industrial activity worldwide.

⁴² The OPEC controls approximate 40% of the global market.

⁴³ Bank of Mexico, Compilation of Quarterly Reports Corresponding to Year 2015.

During 2015, oil prices kept on falling as a result of the crude oversupply worldwide, and to the weak recovery of the global fuels demand. The average price for WTI and Brent was of 48.69 dpb and 52.35 dpb, a decrease of 47.8% and 47.1% regarding the average price recorded in 2014. The MME decreased 49.8% during that same period, reaching an average price of 43.21 dpb.

The downward pressure on prices derived, to a greater extent, from the following supply factors⁴⁴:

- Production indices showed an oversupply, mainly OPEC⁴⁵ members.
- The inventories of crude and its products maintained historic high levels⁴⁶.
- Due to the different interests and strategies of OPEC⁴⁷ members, this organization could not reach an agreement on its production limits (which was of 30 MBD).
- During November, geopolitical conflicts intensified.

Since the third quarter of 2016, the oil price increased by 20% as a result of the production goal agreed for 2017 by the OPEC members and 11 non-members (Azerbaijan, Bahrain, Brunei, Equatorial Guinea, Kazakhstan, Malaysia, Mexico, Oman, Sudan, South Sudan, and Russia). The need to reestablish the oil market encouraged OPEC members to cut their production by 1.2 MBD (this was announced on November 2016), and non-members by 600 MBD, which has gradually reestablished prices and enhancing the trust of company owners for investing in the sector.

From January 3 to July 4, 2017, the Brent averaged \$52.75 dpb; and the WTI, \$50.00 dpb, an increase of 26.1% for the Brent and 24.1% for the WTI regarding that same period in the previous year.

⁴⁴ http://finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/congreso/infotrim/2015/ivt/01inf/itindc_201504.pdf

⁴⁵ According to the OPEC Monthly Oil Market Report – October 2017, in 2015, the OPEC produced 31.7 million barrels per day, reaching a new historic high.

⁴⁶ According to the Reports on the Economic Situation, Public Finances, and Public Debt, of the SCHP, Fourth Quarter 2015, the USA total inventories, excluding strategic reserves, reached 1,312.6 MMB by January 1st, 2016, reaching this indicator's historic high.

⁴⁷ In addition to the uncertainty about Iran's production levels once the restrictions over its exports are lifted.



CHAPTER THREE. OIL AND OIL PRODUCTS OUTLOOK, 2017-2031

The Secretariat of Energy is in charge of exercising the rights bestowed by the Organic Law of the Federal Public Administration, and the rest of the applicable legislation, as well as the regulations, decrees, and agreements of constitutional order.

To comply with what is established in Article 24, Section XIV of the Interior Regulation of the Secretariat of Energy, this chapter presents the prospective project, in the short and medium term, for oil and oil products, with a 15-year planning horizon. This prospective project was devised jointly by Pemex Exploration and Production, the Hydrocarbons National Commission, and the Hydrocarbons Exploration and Extraction General Directorate of the Secretariat of Energy. It is worth mentioning this chapter displays the projection for scenarios 2017-2031, taking as base/real year the 2016 figures for the next 15-years estimate.

The oil production estimate presented in this section was calculated based on the criteria described below:

Extraction

Corresponds to fields with discovered reserves, being therefore a certainty on the existence of subsoil resources. However, even if there is no risk about the existence of resources, the uncertainty associated to their exact volume remains. Thereby, these fields have been assigned production and investment profiles for different uncertainty levels, which are generated according to the volume of proven, probable, and possible reserves (see Table 3.1), presented to the CNH, of each field.

TABLE 3. 1 UNCERTAINTY CATEGORIES OF THE RESOURCES

Reserves	Percentile (probability)
Proved (1P)	P90
Proved plus Probable (2P)	P50
Proved plus Probable plus Possible (3P)	P10

Source: CNH with information from Prospective Resources Database.

It has been considered two production scenarios, minimum and maximum, which are defined based on the profiles of 2P and 3P reserves. The classification of the extraction fields was considered as follows:

- Fields assigned to PEMEX:
 - Assignment of fields in production
 - Assignment of fields in production with plans for contracts migration
 - Assignment of safeguard areas (AR Assignations)
 - Assignment of exploration areas where hydrocarbons reserves have been discovered (AE Assignations)

- Fields of the **State**
 - Extraction tendered fields
 - Extraction fields to be put out to tender

Prospective Resources

Refers to undiscovered exploratory prospects with the potential to become production fields, and for which there is information about the exploratory opportunities to be discovered and developed. These opportunities are associated to a level of risk and uncertainty; therefore, it cannot be assured the existence of hydrocarbons and, if the case, their precise volume.

In the estimate of the minimum and maximum production scenarios, it was determined which exploratory opportunities have a high probability to be successfully developed within the next 15 years, under the legal framework governing the Mexican energy sector, and the scheme of allocations and assignment of blocks through bidding rounds (blocks of gas and oil for onshore areas, shallow-marine areas, and deep-marine areas).

The universe of opportunities is distributed in three sections: the ones assigned to PEMEX in Round Zero; the ones considered within the Quinquennial Plan to be put out to tender during 2015-2019; and those assigned to PEMEX and are not included in the Quinquennial Plan, but can be put out to tender in subsequent periods.

Once it has been defined which opportunities will be active in each scenario, a production-type and capital-investment profile is applied for each type of field (onshore, shallow waters, and deep waters).

3.1 Hydrocarbons Prospective Resources

Prospective resources are the estimated amount of oil, to a defined date, to be potentially recovered from undiscovered accumulations. According to the CNH, to December 31s, 2016, Mexico has prospective resources of 112.8 billion barrels of crude oil equivalent (BBCOE), from which 53.3% is found in non-conventional plays.

The oil basin Tampico-Misantla is the most important one in the country, accounting for 32.9% of the prospective total resources, seconded by the oil basin Gulf of Mexico-Deep Waters with 24.8%. The oil basin Gulf of Mexico-Deep Waters has, mainly, conventional resources, while the oil basin Tampico-Misantla is mainly formed by non-conventional resources. The basins Southeast, Sabinas, and Burgos, account for 12.8%, 12.7%, and 12.4%, respectively, of prospective resources (see Table 3.2).



TABLE 3. 2 PROSPECTIVE RESOURCES
(BBCOE)

Oil Basin	Medium			Conventional		
	Oil	Wet Gas	Dry Gas	Oil	Wet Gas	Dry Gas
Tampico – Misantla	32.1	4.3	0.8	1.3	0.1	0.8
Golfo de México – Deep Water	19.1	5.2	3.6	19.1	5.2	3.6
Southeast Basins	13.1	0.3	1	13.1	0.3	1
Sabinas	0.6	1.3	12.5	0	0	0.4
Burgos	0.6	4.3	9.1	0.6	2.4	0.3
Veracruz	0.9	0.4	0.7	0.3	0.4	0.7
Plataforma de Yucatán	1.7	0.1	0	1.7	0.1	0
Cinturón Plegado de Chiapas	1.2	0	0	1.2	0	0
Total	69.3	15.8	27.8	37.3	8.5	6.8

Source: CNH with information from Prospective Resources Database.

Conventional prospective resources reach 52.6 BBCOE. Oil basins in Gulf of Mexico-Deep Waters and Southeast Basins concentrate 80.7% of the country's conventional prospective resources. Oil is the main kind of hydrocarbon, accounting for 71% of the conventional prospective total resources. The basin of Deep Gulf of Mexico concentrates the largest volume of dry-gas conventional prospective resources, accounting for 53%, though this hydrocarbon only represents 7% of the conventional prospective resources.

To December 31st, 2016, there are non-conventional resources of 60.2 BBCOE, from which 58% is located in the oil basin Tampico-Misantla. Stand out that this basin concentrates 97% of non-conventional oil. The basins of Sabinas and Burgos, jointly have 76% of the non-conventional hydrocarbons reserves, and gathers the total reserves of non-conventional dry gas (see Table 3.3 and Table 3.4).

TABLE 3. 3 NON-CONVENTIONAL PROSPECTIVE RESOURCES (OIL AND SHALE GAS)
(BBCOE)

Oil Province	Recursos Prospectivos			
	Oil	Wet Gas	Dry Gas	Total
Basin Tampico – Misantla	30.8	4.1	0	34.9
Basin Sabinas	0.6	1.3	12.1	14
Basin Burgos	0	1.9	8.9	10.8
Basin Veracruz	0.6	0	0	0.6
Total	31.9	7.3	20.9	60.2

Source: CNH with information from Prospective Resources Database.

Non-conventional prospective resources correspond to oil and shale-gas projects. 53% of non-conventional prospective resources correspond to oil, which is mainly concentrated in the basin Tampico-Misantla.

TABLE 3. 4 NON-CONVENTIONAL PROSPECTIVE RESOURCES TO DECEMBER 31ST, 2016

Oil Basin / Play	Oil (MMMb)	Gas (MMpc)	Total (MMMbpce)
Total	31.9	141.5	60.2
Tampico – Misantla	30.8	20.7	34.9
Agua Nueva	13	7.6	14.5
Pimienta	17.7	13.1	20.4
Sabinas	0.6	67	14
Eagle Ford	0.6	32.9	7.1
La Casita	0	34.1	6.8
Burgos	0	53.8	10.8
Eagle Ford	0	9.5	1.9
Pimienta	0	44.3	8.9
Veracruz	0.6	0	0.6
Maltrata	0.6	0	0.6

Source: CNH with information from Prospective Resources Database.

3.2 Crude Oil Production 2017-2031

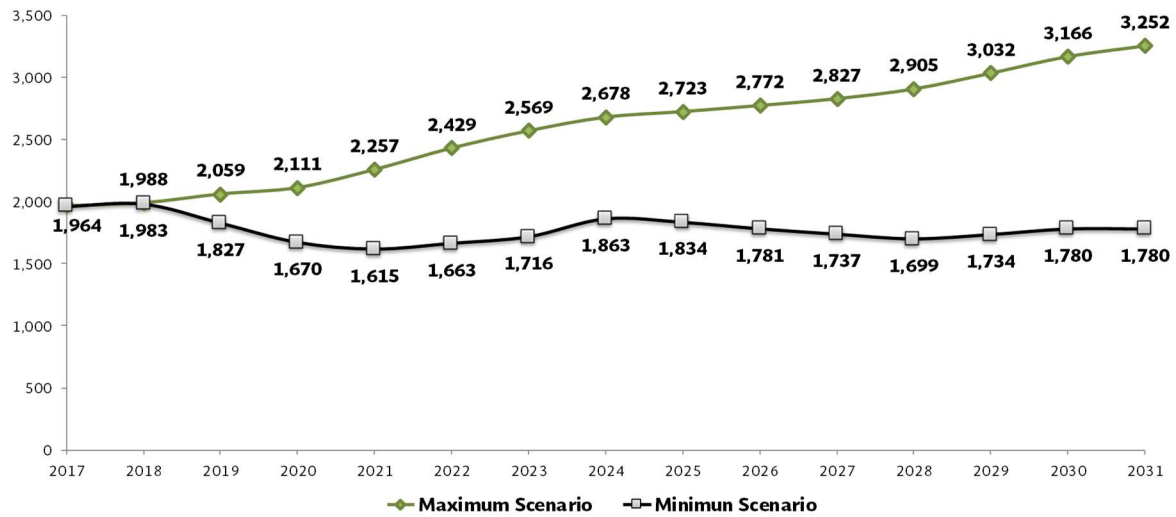
The estimate of the crude oil production platform in Mexico is displayed in two scenarios, according to the following classification:

- **Minimum**
 - Extraction component: 2P reserves
 - Exploration component: 2P reserves
- **Maximum**
 - Extraction component: 3P reserves
 - Exploration component: 3P reserves

Both scenarios are based on an oil production platform estimated in 1,964 MBD in 2017. In the maximum scenario, the production reaches 3,252 MBD in 2031. On the other hand, the minimum scenario reduces it 45.3%, recording a volume of 1,780 MBD in 2031 (see Figure 3.1).



FIGURE 3. 1 ESTIMATED OIL PRODUCTION, 2017-2031
MINIMUM AND MAXIMUM SCENARIOS
(MBD)

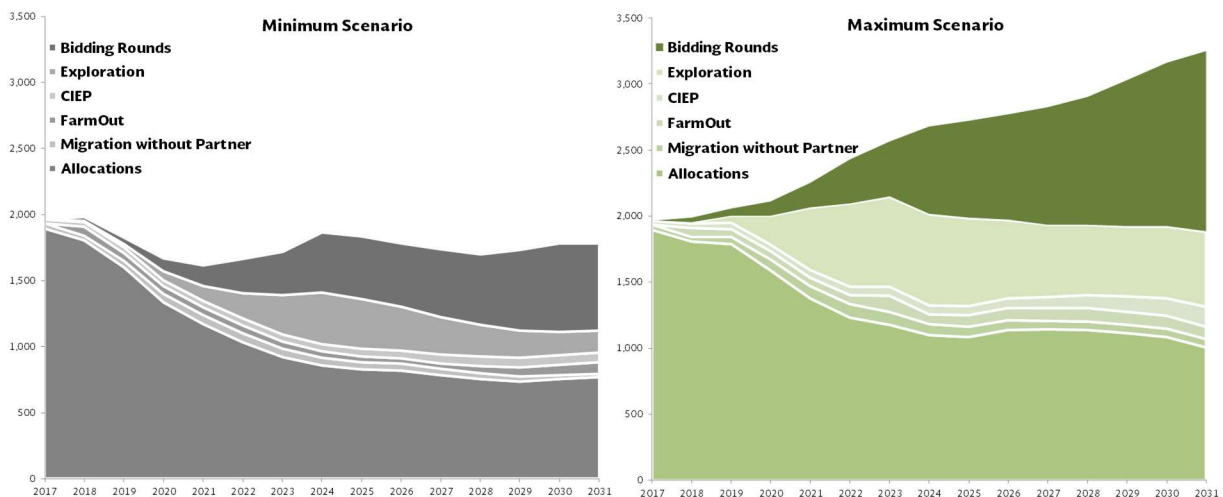


Source: SENER with information from PEMEX and CNH.

3.2.1. Production by Activity

In 2017, the production for the maximum and minimum scenario (1,964 MBD) will be totally from extraction by PEMEX (takes into account Round Zero, Safeguard Assignations, Migration and Comprehensive Contracts for Exploration and Production). None of these scenarios reflect the production from tenders and exploration activity. By 2031, 32% of the maximum scenario is estimated to be from exploration, and 68% from extraction. For the minimum scenario, 9.4% will be from exploratory activities, and 90.1% from extraction activities (see Figure 3.2 and Figure 3.3).

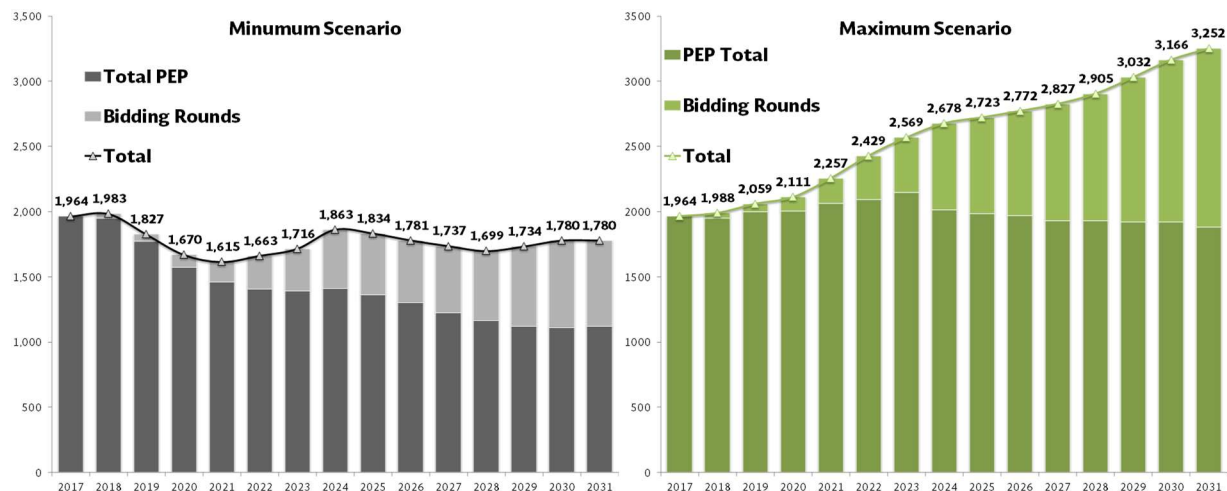
FIGURE 3. 2
ESTIMATED OIL PRODUCTION BY TYPE OF ACTIVITY
(MBD)



Source: SENER with information from PEMEX and CNH.

FIGURE 3. 3

ESTIMATED OIL PRODUCTION BY TYPE OF ACTIVITY
(MBD)



Source: SENER with information from PEMEX and CNH.

During the period 2017-2031, the main production sources are PEMEX extraction fields and the extraction fields from tenders. However, the production from PEMEX existing fields will be declining by 2020. From that year on, the production from exploratory opportunities, from PEMEX and the tendered ones in different rounds, become relevant.

In both scenarios, PEMEX is the main oil producer between 2017 and 2031, in the maximum and minimum scenarios, respectively.

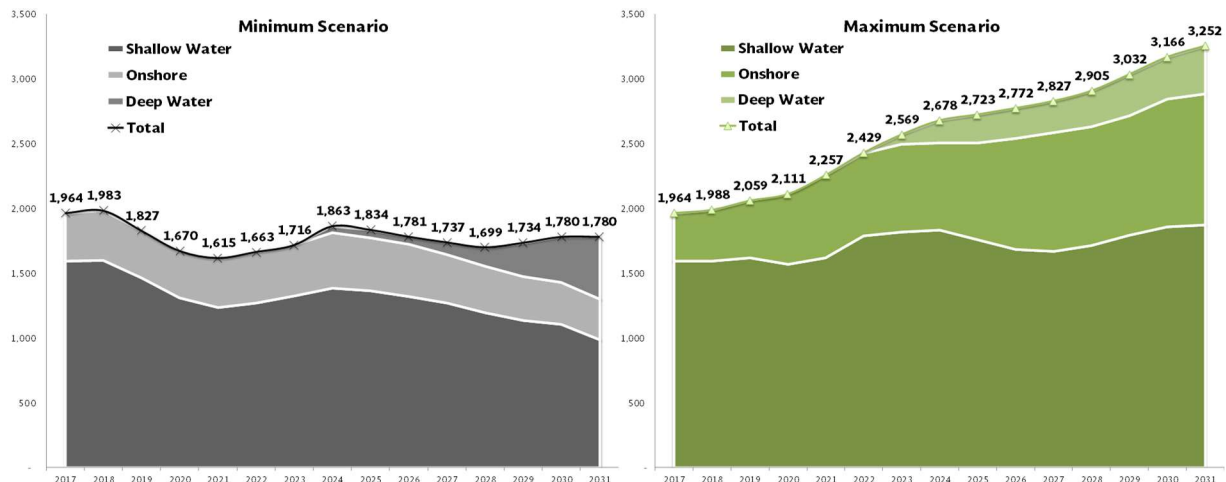
3.2.2. Production by Region

During all the projection period, the hydrocarbons production is concentrated in shallow-marine areas. In 2017, the latter represent 81% in the maximum and minimum scenario. By 2031, its share decreases to 57.2% and 55.2%. From 2017 to 2031, in both scenarios, the largest volume of oil will come from PEMEX extraction activities, foreseeing that, in 2021, the production from exploratory activities will be added. The extraction and exploration tenders will begin to record production by 2018 (see Figure 3.4).

In 2017, onshore production represents 18.9% in the maximum and minimum scenarios. This share in the oil total production increases to 30.6% and 30.2%, respectively, in 2031. The deep-marine areas will have activity by 2024 in the maximum scenario, and by 2027 in the minimum scenario; by 2031, they will contribute with 31.1% and 17.8% of the production in the maximum and minimum scenarios.



FIGURE 3. 4 OIL ESTIMATED PRODUCTION BY REGION (MBD)

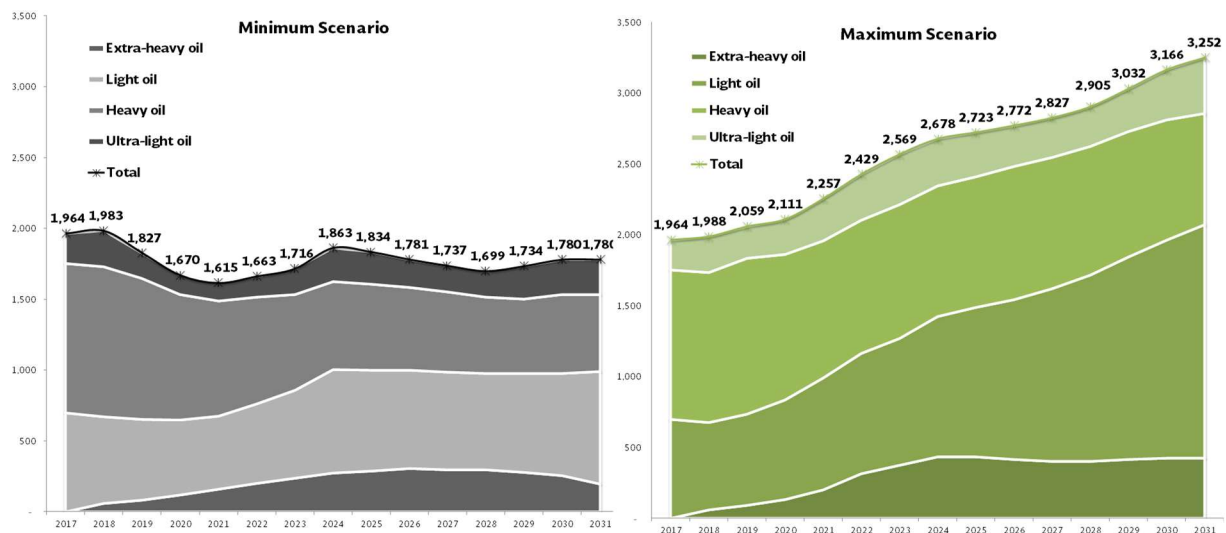


Source: SENER with information from PEMEX and CNH.

3.2.3. Production by Type of Oil

During the period 2017-2031, the oil accumulated production is mainly concentrated in the increase in the production of light and extra-heavy oil in both scenarios. In 2017, from the total production, 53.5% corresponds to heavy oil, and 35.6% to light oil. By 2031, the production of heavy oil will account for 24.1%, and light oil for 50.6%, in the maximum scenario; while in the minimum scenario, 30.5% will come from heavy oil, and 44.5% from light oil (see Figure 3.5).

FIGURE 3. 5 OIL ESTIMATED PRODUCTION BY TYPE, 2016-2031 (MBD)



Source: SENER with information from PEMEX and CNH.

3.3. Perspectives on Crude Oil Refining in Mexico

The crude oil refining industry is undergoing a reorganization, adaptation, and transformation process in addition to operational problems which, during 2017, have significantly impacted the oil products production levels. In 2016, the volume of processed crude oil was of 933 MBD, the lowest compared to its average in the previous decade, 1,232 MBD. In 2017, this volume reached 837 MBD⁴⁸.

Under these circumstances, and considering the new legal framework emanated from the Energy Reform, PEMEX is designing alliances schemes and new business cases which will allow it to relaunch its refining system in the medium term. Its Business Plan 2017-2021, presents a strategy that takes advantage of the opportunities brought up by the Energy Reform, with which it is intended to develop⁴⁹:

- Alliances to establish service contracts in investment, operation, and maintenance of Ultra-low sulfur diesel (ULSD) plants in refineries.
- Alliances to improve performance and carry out streamlines with multiple contracts involving partners to contribute with capital and to operate services contracts.
- Crude oil supply contracts for increasing distillates yields.
- Long-term contracts for removing residuals and subproducts such as fuel oil, petroleum coke, and asphalt.
- Wet-gas supply contracts for increasing charge in the Processing Centers of Gas Burgos and southeast.
 - Services Contracts (investment, operation, and maintenance).
 - Supply of hydrogen to refineries.
 - Wastewater and black waters treatment.
 - Sulfur recovery in refineries.
 - Nitrogen removal from wet sour gas.
 - Cogeneration in refineries and gas processing centers.

The exercise of the production in this Oil and Oil Products Outlook 2017-2031 is based on the following:

- A regulatory framework which implements the Flexibilization Schedule for the gasolines and diesel markets with the liberalization of retail prices during 2017.
- Operational capacity completely available of hydrodesulfurization units for gasolines, diesel, and jet fuel, which would position these products within the current standards of fuels quality making their quality competitive with imports.
- Cokers working in Tula, Salamanca, and Salina Cruz.

⁴⁸ Averaged to November 2017, according to the PEMEX Institutional Database (BDI).

⁴⁹ See PEMEX Business Plan 2017-2021.



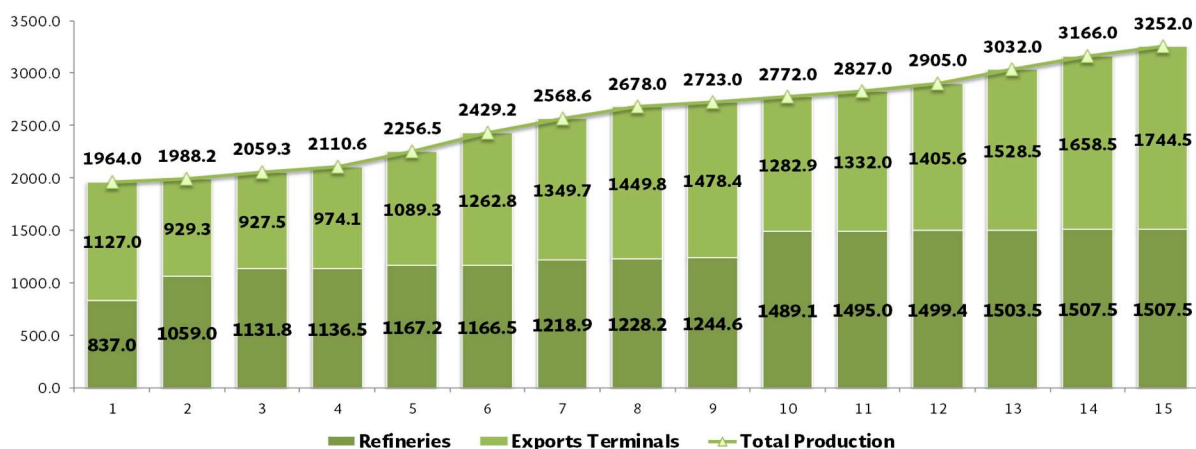
- Progressive improvements in the operation practices of refineries based on the compliance with the maintenance programs timely and orderly, hydrogen supply, ancillary services, and on the yields
- obtained from an appropriate use of raw materials to achieve, in the medium term, international standards.

It is important to mention that the progress of the projects laid down in PEMEX Business Plan 2017-2031, reflects its dynamic character and can differ their startup date, given that they are subjected to the State Productive Enterprise budget constraints, and is undergoing a process to define alliances to obtain the resources required for the planned projects.

Oil Distribution

During 2017-2031, the production of oil will display an average annual growth rate (AAGR) of 3.7%. From the 2017 production total volume, it is foreseen that 42.6% will be sent to refineries, and 57.4%, to export terminals; and that by 2031, raises to 46.4% and 53.6%, respectively, due to an increase in the crude production (see Figure 3.7).

FIGURE 3. 6 CRUDE DISTRIBUTION 2017-2031
(MBD)



Source: Elaborated by IMP, based on information from CNH, IMP and PEMEX.

Processing Capacity

In an international context, and in the long term, additions in refining capacity will be located mostly in developmental countries, led by countries located in the Asia Pacific and Middle East regions, followed by the ones located in Latin America and Africa. Mature markets like the United States, Canada, and Europe will have limited capacity increases in the long term. The increases in refining capacity are moderate due to a reduction in the demand and to the introduction of volumes of non-conventional fuels (biofuels, gas-to-liquids, etc.). Therefore, and given the conditions of decommissioning capacity, long-term projections may enter an era of no increase in the global refining capacity.

In Mexico, between 2017 and 2031, stands out the increase in hydrodesulfurization capacities from 1,230.0 MBD to 1,899.9 MBD; and of coking, from 155.8 MBD to 431.6 MBD. Such increase is related to an improvement on the quality of the ULSD through installing hydrodesulfurization units for gasoline and intermediate distillates, and the installation of cokers that will improve the refining margin.

The new capacity of 275 MBD in 2026 could be reached in some of the refineries part of the SNR⁵⁰. It is feasible the distillates production, derived from this new capacity, is justified by a sufficient demand in the country (See Table 3.5).

TABLE 3. 5 REFINING PROCESSING CAPACITIES IN MEXICO IN 2016 AND 2031
(MBD)

Refinery	Cadereyta		Madero		Tula		Salamanca		Minatitlán		Salina Cruz		New Capacity		Total	
	2016	2031	2016	2031	2016	2031	2016	2031	2016	2031	2016	2031	2016	2031	2016	2031
Atmospheric Distillation	275.0	275.0	190.0	190.0	315.0	315.0	220.0	220.0	285.0	285.0	330.0	330.0	-	275.0	1615.0	1890.0
Catalytic Disintegration	90.0	90.0	60.5	60.5	80.0	120.0	40.0	65.0	72.0	72.0	80.0	105.0	-	72.0	422.5	584.5
Viscosity Reducer	-	-	-	-	41.0	41.0	-	-	-	-	50.0	50.0	-	-	91.0	91.0
Catalytic Reforming	46.0	46.0	30.0	30.0	65.0	115.0	39.3	50.0	49.0	49.0	50.0	103.0	-	49.0	279.3	442.0
Alkilation and Isomerization	23.0	23.0	22.1	22.1	25.2	45.2	14.3	15.0	41.8	41.8	27.9	31.7	-	41.8	154.3	220.6
Hydrodesulfurization	229.0	306.5	181.7	271.7	249.4	329.4	141.5	246.5	213.4	243.4	215.0	314.0	-	188.4	1230.0	1899.9
Coking	50.0	50.0	50.0	50.0	-	86.0	-	44.0	55.8	55.8	-	90.0	-	55.8	155.8	431.6

Source: Elaborated by IMP based on information from IMP, PEMEX and SENER.

3.3.1. Oil Processing in the SNR

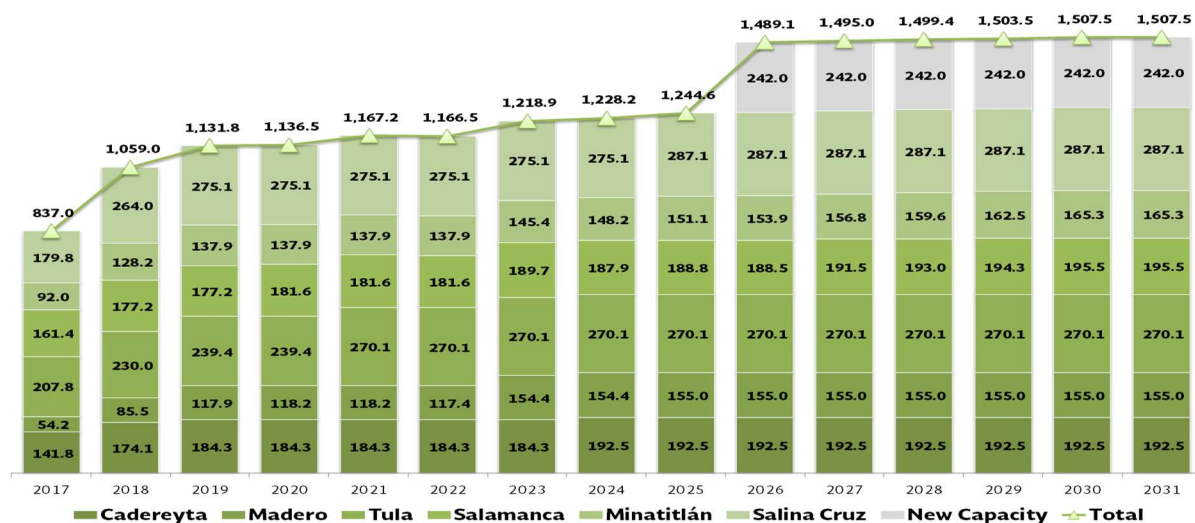
The expected increase on oil processing accounts for 79.6% during 2017-2031. Based on the investment planning for upgrading and constructing infrastructure in the SNR, it is expected to add processing capacity once the reconfiguration of the existing refineries is over. The increase in the coming years shall be the result of implementing improvements in the processes, adjustments in crude blends, and more efficient operations.

Between 2015 and 2026, crude processing will reach levels above 1,250 MBD. Such increase is due to the implementation of the necessary measures to optimize the refineries operation, which will allow imports to reach competitive international standards. The upgrading works in refineries provoked a decrease in crude processing in 2017, which will be recovered during the period 2017-2019 (see Figure 3.7).

⁵⁰ The concept "new capacity" refers to the possibility of carrying out upgrading projects in the refineries currently part of the SNR.



FIGURE 3. 7
CRUDE PROCESSING IN THE SNR, 2017-2031
(MBD)



Source: Elaborated by SENER, with information from PEMEX.

A main factor to consider in the crude processing capacity during 2017 is the budget cut to PEMEX during the tax year 2016, which was reflected in a reduction of the available resources to operate and maintain refineries, as well in the expansion of completion goals for developmental projects currently in suspension of activities. Thereby, it is required a budget adjustment which will allow an operation logistically supported to reach the expected goals.

3.4. Oil Products Production, 2017-2031⁵¹

The investments projected for the SNR are aimed to increase the oil products production, mainly light and intermediate distillates. As a result of the reconfigurations and capacity additions in the processes, it is expected to raise the production of gasoline and ULSD during 2017-2031. In this context, the growth expectancy of oil products production is of 4.2% average annual for the next 15 years, to reach 1,320.3 MBDCOE by 2031. (see Table 3.6)

TABLE 3. 6 OIL PRODUCTS PRODUCTION IN THE SNR, 2017-2031
(MBDCOE)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	740.3	948.0	1013.7	1017.6	1040.6	1039.9	1084.0	1082.5	1096.7	1304.3	1309.2	1313.1	1316.8	1320.3	1320.3	4.2
Fuel Oil	217.5	247.6	257.6	258.8	175.9	175.9	130.1	41.5	42.5	42.9	43.2	43.6	44.0	44.3	44.3	-10.7
Diesel	204.0	271.6	294.0	295.0	334.9	334.6	377.8	415.9	421.2	506.2	508.1	509.5	510.9	512.2	512.2	6.8
Gasolines	244.6	322.8	346.1	347.4	394.6	394.3	420.1	446.4	452.1	534.3	536.3	537.8	539.2	540.6	540.6	5.8
Jet Fuel	53.3	61.6	65.3	65.6	59.8	59.8	63.4	61.7	62.5	75.2	75.4	75.6	75.7	75.8	75.8	2.5
Petroleum Coke	20.9	44.3	50.7	50.8	75.4	75.3	92.6	117.0	118.5	145.7	146.2	146.6	147.0	147.4	147.4	15.0

Note: Totals may not coincide due to the rounding up.

Source: Elaborated by SENER, with information from IMP.

⁵¹ Since the unit of measure of some oil products is different, MBD and MTA, is expressed in MBDCOE (power) to make them comparable and avoid volume units.

Vacuum residue is used to produce fuel oil and asphalt; if the refinery has a coker, gasolines and diesel can be obtained, and produce petroleum coke. The raise in the 2031 production regarding 2017 is the result of better yields on gasoline and diesel after the installation of coke and an increase in the refining capacity.

Thus, fuel-oil production dropped from 217.5 MBDCOE to 44.3 MBDCOE, a reduction average annual rate of 10.7%; this oil-product conversion will bring an increase of 296.0 MBDCOE in gasolines, 308.2 MBDCOE in diesel, 22.5 MBDCOE in fuel oil, and 126.5 MBDCOE in petroleum coke.

By 2026, 15.7% of the estimated oil products production is expected to come from the installation of new refining capacity in some of the centers part of the SNR, and whose contribution is expected to be of 205.1 MBDCOE. From the latter, 80.7% will represent the joint production of gasolines and diesel. As for the existing refineries, Madero will display the largest increase, adding 91.2 MBDCOE to its production; seconded by Salina Cruz and Minatitlan with 86.0 MBDCOE and 75.7 MBDCOE, respectively; and finally, Tula and Cadereyta with 51.4 MBDCOE and 46.8 MBDCOE, reporting the smallest increases in production (see Table 3.7).

The implementation of deep-conversion processes (cokers) in three of the SNR refineries, which currently lack this technology, during 2021-2025, will improve the yields on crude-oil processing. As a result, the production of oil products with higher market value, such as gasoline, diesel, and jet fuel will increase, while the production of fuel oil, with a low market value for being a pollutant fuel, will be reduced. During the analyzed period the increases on the oil products already mentioned will be: gasolines from 33.3% to 42.4%; diesel, 23.2% to 34.0%; and jet fuel, 4.6% to 5.2%. On the other hand, fuel oil will fall from 24.4% down to 2.7%.

The one constant will be the progressive reduction in fuel oil production; Tula and Salamanca will stop its production in 2021. As for the new refining capacity, this oil product will not be produced due to its high complexity.



TABLE 3. 7 OIL PRODUCTS PRODUCTION BY REFINERY, 2017-2031
(MBDCOE)

Concept	Annual Data															Growth % 2031/2017	AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031		
Total	740.3	948.0	1013.7	1017.6	1040.6	1039.9	1084.0	1082.5	1096.7	1304.3	1309.2	1313.1	1316.8	1320.3	1320.3	78.4	4.2
Salina Cruz	161.6	237.3	247.3	247.3	247.3	247.3	247.3	237.3	247.6	247.6	247.6	247.6	247.6	247.6	247.6	53.2	1
Fuel Oil	67.9	99.7	103.9	103.9	103.9	103.9	103.9	14.8	15.5	15.5	15.5	15.5	15.5	15.5	15.5	-77.2	-10
Gasolines	46.7	68.5	71.4	71.4	71.4	71.4	71.4	94.6	98.7	98.7	98.7	98.7	98.7	98.7	98.7	111.5	5.5
Diesel	36.4	53.4	55.7	55.7	55.7	55.7	55.7	90.1	94	94	94	94	94	94	94	158.4	7
Jet Fuel	10.7	15.6	16.3	16.3	16.3	16.3	16.3	14.5	15.1	15.1	15.1	15.1	15.1	15.1	15.1	41.7	2.5
Petroleum Coke	-	-	-	-	-	-	-	23.3	24.4	24.4	24.4	24.4	24.4	24.4	24.4	NA	NA
Tula	185.8	205.6	214.1	214.1	237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	237.2	27.7	2
Fuel Oil	71.9	79.6	82.8	82.8	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Gasolines	57.5	63.6	66.2	66.2	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	97.4	5
Diesel	35.5	39.3	40.9	40.9	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	127.4	6
Jet Fuel	20.9	23.2	24.1	24.1	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	-12.5	-0.9
Petroleum Coke	-	-	-	-	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	NA	NA
Cadereyta	125.4	155.8	164.8	164.8	164.8	164.8	164.8	172.2	172.2	172.2	172.2	172.2	172.2	172.2	172.2	37.4	3.2
Diesel	52.9	71.4	75.6	75.6	75.6	75.6	75.6	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	49.2	2.9
Gasolines	44.1	57.7	61.1	61.1	61.1	61.1	61.1	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	44.6	2.7
Fuel Oil	11.2	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	-79.7	-10.8
Petroleum Coke	9.3	18.9	20	20	20	20	20	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	125.2	6
Jet Fuel	7.8	5.6	6	6	6	6	6	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	-20.4	-1.6
Minatitlán	89.1	130.3	139.3	139.3	139.3	139.3	146.2	148.9	151.5	154.2	156.8	159.4	162.1	164.7	164.7	85.0	3.8
Diesel	31.2	40.7	43.8	43.8	43.8	43.8	46.2	47.1	48	48.9	49.8	50.7	51.6	52.5	52.5	68.1	3.8
Gasolines	37	57.4	61	61	61	61	63.6	64.6	65.7	66.7	67.7	68.8	69.8	70.8	70.8	91.6	6.2
Petroleum Coke	7	14.3	15.3	15.3	15.3	15.3	16.2	16.5	16.8	17.1	17.4	17.7	18.1	18.4	18.4	163.5	7.2
Fuel Oil*	13.9	16.6	17.8	17.8	17.8	17.8	18.8	19.1	19.5	19.9	20.2	20.6	21	21.4	21.4	53.7	3.1
Jet Fuel	-	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	NA	NA
Salamanca	130.1	142.1	142.1	145.6	145.6	145.6	149.4	148	148.7	148.5	150.8	152.1	153.1	154	154	18.3	0.7
Gasolines	42.9	46.8	46.8	48	48	48	58.6	58.1	58.3	58.3	59.2	59.7	60	60.4	60.4	40.9	2.5
Fuel Oil	42.9	46.8	46.8	48	48	48	-	-	-	-	-	-	-	-	-	NA	NA
Diesel	34	37.1	37.1	38	38	38	66	65.4	65.7	65.6	66.6	67.1	67.6	68	68	100.2	5.1
Jet Fuel	10.4	11.3	11.3	11.6	11.6	11.6	13.2	13.1	13.1	13.1	13.3	13.4	13.5	13.6	13.6	30.9	1.9
Petroleum Coke	-	-	-	-	-	-	11.6	11.5	11.6	11.6	11.7	11.8	11.9	12	12	NA	NA
Madero	48.3	77	106.1	106.4	106.4	105.7	139	139	139.6	139.6	139.6	139.6	139.6	139.6	139.6	188.7	4.8
Gasolines	16.5	28.7	39.6	39.7	39.7	39.5	51.9	51.9	52.1	52.1	52.1	52.1	52.1	52.1	52.1	216.3	8.6
Diesel	14	29.7	41	41.1	41.1	40.8	53.7	53.7	53.9	53.9	53.9	53.9	53.9	53.9	53.9	284.4	10.1
Fuel Oil	9.7	2.9	4	4	4	4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	-46.0	-4.3
Petroleum Coke	4.6	11.1	15.4	15.4	15.4	15.3	20.1	20.1	20.2	20.2	20.2	20.2	20.2	20.2	20.2	335.7	11.1
Jet Fuel	3.5	4.5	6.2	6.2	6.2	6.2	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	129.9	6.1
New Capacity	-	-	-	-	-	-	-	-	-	205.1	205.1	205.1	205.1	205.1	205.1	NA	NA
Gasolines	-	-	-	-	-	-	-	-	-	81.3	81.3	81.3	81.3	81.3	81.3	NA	NA
Diesel	-	-	-	-	-	-	-	-	-	84.1	84.1	84.1	84.1	84.1	84.1	NA	NA
Fuel Oil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA	NA
Petroleum Coke	-	-	-	-	-	-	-	-	-	26.9	26.9	26.9	26.9	26.9	26.9	NA	NA
Jet Fuel	-	-	-	-	-	-	-	-	-	12.7	12.7	12.7	12.7	12.7	12.7	NA	NA

* Includes transferences of topped from La Cangrejera to fuel oil.

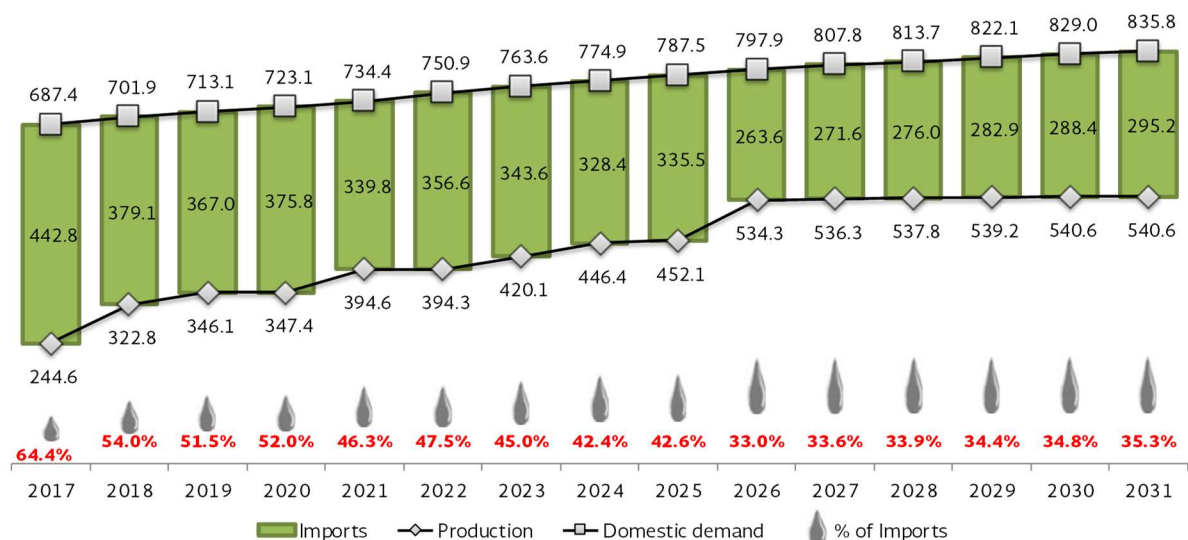
NA: Not applicable.

Source: Elaborated by SENER, with information from IMP.

The production of light and intermediate distillates will show a significant increase adding 296.1 MBDCOE of gasolines and 308.2 MBDCOE of diesel. By 2031, the production of petroleum coke will raise to 147.4 MBDCOE, 4.8 times more than what was reported in 2016 of 30.9 MBDCOE. As for jet fuel, its production will be of 75.8 MBDCOE during the last year of the analysis, and which will represent 5.8% of the total oil products by the end of the period, having Tula refinery the largest production, 18.3 MBDCOE.

One of the indicators for gasoline production monitoring refers to import dependency; while the amount of production keeps growing during 2017-2026, imports decrease down to 33.0%, and then raise again reaching 35.5% in 2031. This behavior responds to the growth in gasolines demand expectation, estimated to reach 835.8 MBDCOE in 2031; however, the dependency on the foreign market to serve this fuel demand, will continue (see Figure 3.8).

FIGURE 3.8
GASOLINES PRODUCTION, DEMAND, AND IMPORT 2016-2031
(MBCOE)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

Diesel production, recording 216.0 MBDCOE in 2016, is estimated to reach 512.2 MBDCOE in 2031. As for jet fuel, its production will reach 75.8 MBDCOE, a growth by 4.1%.

3.4.1. Production Yields

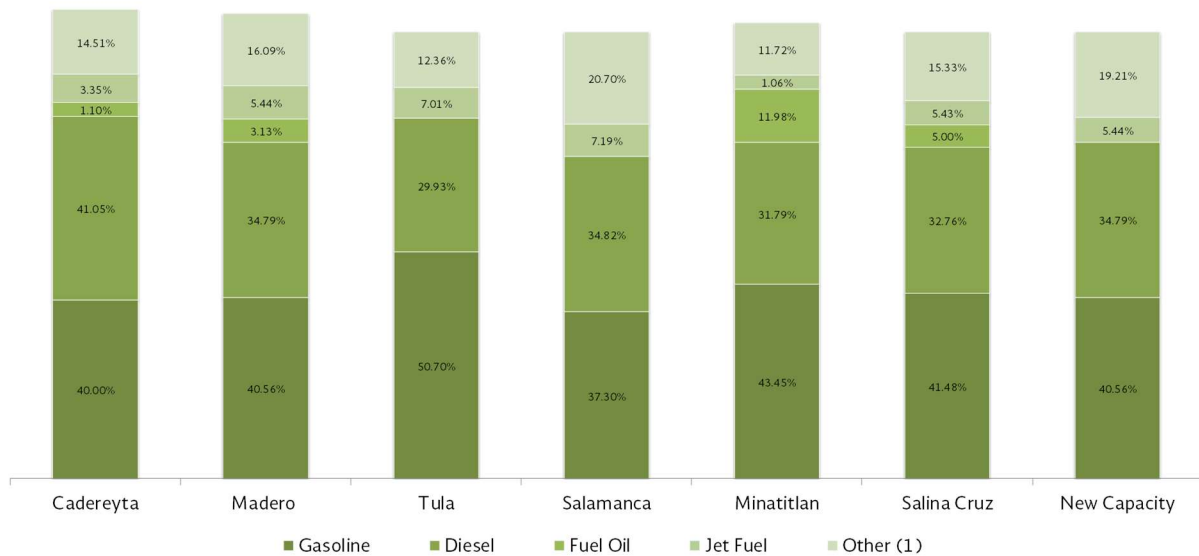
With the improvements planned for the SNR infrastructure is expected to increase the existing refineries' complexity by adding different conversion processes. These changes will bring about benefits reflected on the energy intensity, improving the global efficiency of the refining process. The capacity for processing heavier oils to obtain distillates with higher market value is the result of the refineries upgrading.

Obtaining larger volumes of distillates, producing other industrial fuels, and reducing residual products, entail changes in the production yields which are indicators of the crude conversion efficiency in the SNR. Strategically, refineries are expected to have different yields for every oil product, and even if all the refineries will try to maximize their gasoline and diesel production, some of them will stand out for having high yields on a specific oil product.



Consequently, by the end of the analyzed period, Tula is expected to have the highest yield on gasolines production, followed by Minatitlan and Salina Cruz. Likely, Cadereyta will present the highest yield on diesel, seconded by Salamanca and Madero. For jet fuel, Salamanca will display the highest yield, seconded by Tula; whereas Minatitlan will have the lowest yield. As for fuel oil, Minatitlan will present the highest yield, seconded by Salina Cruz, Madero, and Cadereyta; the rest of the SNR will not produce fuel oil (see Figure 3.9).

FIGURE 3.9
REFINERIES' YIELDS BY PRODUCTS, 2031
(percentage)



¹Includes paraffins, lubricants, aeroflex, asphalts, solvents, and petroleum coke.
Source: Elaborated by IMP, based on information from PEMEX.

The sufficient and timely supply of oil products within the national territory will be possible with the appropriate storage and transport logistics. Thereby, it is necessary to increase the infrastructure to store oil products through supply and distribution terminals (TAR, for its Spanish acronym), the expansion of crude storage in refineries, increasing the number and length of polyducts, improving safety, and ensure the integrity of every type of transport, being able to meet the country's fuel demands through an effective and efficient oil industry.

3.5. Oil Products Demand

At a global level, even if energy needs are increasing slower than in the past, they are still increasing by 30% between 2017 and 2040. According to the projections of the Energy Outlook 2017, oil demand is still growing, though a slower pace. By the mid-2020s, its grow is robust, but it starts to slow down due to better performances and the replacement of fuels which reduce the use of oil for passenger vehicles.

However, other sectors' strong impulse helps oil demand in maintaining an upward trend by 2040. Using oil for producing petrochemicals is its largest-growing source, closely followed by the increase in its consumption by trucks, aviation, and maritime transport.

Compared to the last 25 years, the way in which the world meets its growing energy needs displays a radical change when natural gas takes the lead; to the fast growth of renewable energies, covering 40% of the primary demand; and to the improvements on energy efficiencies, all which play a meaningful role eliminating the tension on the offer side. Otherwise, the increase projected for the end use of energy would be more than double.

Mexico will have this same trend, with an oil demand mainly fostered by the transport and industrial sectors. Within the electricity sector, oil-products demand will lose its share progressively due to the replacement with natural gas, and solar and eolic power.

Between 2016 and 2030, Mexico intends to reduce in 1.9 percentage points per year its energy intensity; and 3.7 percentage points between 2031 and 2050. Pursuant to this objective, the CONUEE elaborated the Official Mexican Standards (NOM, for its Spanish acronym) which establish the efficiency criteria the equipment used in the residential, commercial, and services sectors, as well as in the agroindustrial and transport sectors should comply.

The estimate of the oil-products domestic demand for 2017-2031 took into consideration the country's main economic indicators, such as the economic activity scenario by state, sector, and subsector. The Mexican Petroleum Institute (IMP, for its Spanish acronym) is in charge of projecting the fuels demand. To obtain the foreseen disaggregated demand for each of the oil products at domestic level, by region, state, sector, and in some cases, by branch, significant variables were considered, such as: domestic and industrial GDP, prices of oil products, composition of the vehicle fleet by fuel, as well as their intensity of use, performance, among others. These projections comply with the CONNUE's purpose of reducing the energy intensity in the end use in 1.9 percentage points.

3.5.1. Transportation Sector

Mexico displays a dynamic economic growth, and considering the number of vehicles per inhabitant, is far from reaching the point of saturation. In this sense, between 2017 and 2031, the transport sector is estimated to increase by 27.3% its fuels demand, raising from 1,149.6 MBDCOE in 2017 to 1,463.5 MBDCOE in 2031. From the total volume expected by 2031, gasolines will have the largest demand, 56.8%, and diesel, 33.5%, due to motor-carrier intensive use. Thus, the consumption of these fuels will account for 90.4% of this sector's total demand; the rest is distributed among jet fuel (7.8%) and LP gas (1.5%). Compressed natural gas (CNG), and intermediate 15 will still have a marginal share (see Table 3.8).

TABLE 3. 8 TRANSPORT SECTOR FUEL DEMAND, 2017-2031
(MBDCOE)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	1149.6	1172.6	1194.6	1217.2	1244.0	1275.4	1300.3	1322.1	1346.4	1368.9	1391.2	1408.1	1428.3	1446.6	1463.5	1.7
Gasolines	686.3	699.6	709.7	719.7	731.0	747.5	760.2	771.5	784.1	794.5	804.4	810.3	818.7	825.6	832.3	1.4
Diesel	359.0	367.2	377.2	386.7	399.5	411.7	421.4	429.5	438.8	448.4	458.1	466.4	475.5	484.0	491.4	2.3
LP Gas	26.6	25.9	25.6	25.7	25.9	26.1	25.9	25.7	25.4	25.1	24.7	24.4	24.0	23.6	23.1	-1.0
Jet Fuel	76.7	78.9	81.0	83.9	86.3	88.8	91.4	94.0	96.7	99.5	102.5	105.5	108.6	111.9	115.2	2.9
Intermediate 15	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0
Compressed Natural Gas	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4.6

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.



Motor-Carrier

The fuels demand in the motor-carrier segment was elaborated taking as its premise the assumption of constant retail prices on real terms for automotive gasolines and diesel, as well as the assumptions of introducing new technologies into the automotive market to improve, among other, its yields, and which will be reflected in the future in the vehicle fleet composition.

Gasolines remain as the main fuel consumed in the motor-carrier segment during 2017-2031. The automotive gasolines demand is expected to increase by 21.3%, reaching 1,004.5 MBD by the end of the period, 176.3 MBD more regarding 2017; the result of the growth expected in the gasoline-powered vehicle fleet.

The estimate shows the consumption of Premium gasoline will display an average annual growth of 1.2%, and Magna gasoline, 1.6%. From the volume demanded, PEMEX Magna gasoline will have the largest consumption and share regarding the gasoline total during the prospected period, going from 644.0 MBD in 2017 to 779.5 MBD in 2031. Likewise, PEMEX Premium gasoline will increase from 184.2 MBD to 225.0 MBD during the same period (see Table 3.9).

TABLE 3. 9 MOTOR-CARRIER FUEL DEMAND, 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Magna Gasoline	644.0	656.6	666.1	675.6	686.1	701.5	713.2	723.6	735.3	744.8	754.0	759.4	767.0	773.4	779.5	0.1
Premium Gasoline	184.2	187.7	190.4	193.0	196.1	200.6	204.3	207.4	211.0	214.0	216.8	218.6	221.0	223.0	225.0	0.1
Diesel	331.7	340.0	349.9	359.2	371.7	383.3	392.4	400.0	408.7	417.7	426.7	434.4	442.8	450.7	457.3	0.2
LP Gas	39.9	38.9	38.4	38.7	39.0	39.2	39.0	38.7	38.2	37.6	37.1	36.6	36.1	35.5	34.7	-0.1
Natural Gas (MMCFD)	3.2	3.4	3.7	4.1	4.4	4.8	5.1	5.4	5.6	5.7	5.8	5.9	6.0	6.0	5.9	0.5

Note: Less than 92 octane gasolines are considered as Magna; 92 octane gasolines or more, as Premium.

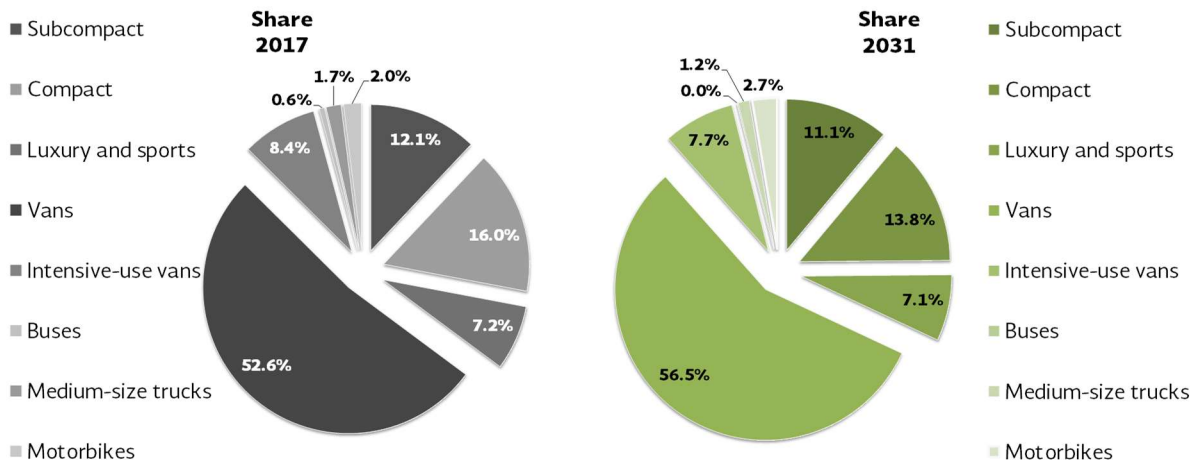
Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

The upward trend in the gasoline demand is related to the strong share of vans in the vehicle fleet, whose demand is estimated in 56.5% in 2031. By the end of the prospected period, vans will consume 567.1 MBD of gasoline, an increase by 29.2% regarding 2017, which was of 438.8 MBD (see Figure 3.10).

The modality of compact vehicles will demand 138.2 MBD of gasoline in 2031, an increase by 4.8% regarding 2017 (131.9 MBD). As for the subcompact vehicles, these will increase their gasoline demand in 11.8% throughout the projection, having a 99.8 MBD demand in 2017 and reaching 111.5 MBD in 2031.

Luxury and sports vehicles will also show a meaningful increase in their gasoline demand, with a demand raising from 59.6 MBD in 2017 to 71.3 MBD in 2031. Likewise, the gasoline consumption of heavy-duty vans will increase from 69 MBD in 2017 to 76.9 MBD in 2031, that is, a growth of 11.4%. Motorcycle will also present an increase by 63.4% in their gasoline consumption during this period, raising from 16.4 MBD in 2017 to 26.8 MBD in 2031.

FIGURE 3. 10 AUTOMOTIVE-GASOLINES DEMAND BY SEGMENT, 2017 Y 2031 (MBD)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, Melgar, PEMEX, SENER and private companies.

The motor-carrier sector will have the largest demand of diesel, which will raise from 331.7 MBD in 2017 to 457.3 MBD in 2031 and increase by 37.8% during the period. The latter is the result of an increase in the heavy-duty vehicle fleet using this fuel. Diesel consumption will display an AAGR of 2.3%, lower than the recorded by the diesel vehicle fleet, which will be of 4.9% during 2017-2031. On the other hand, the performance improvements on diesel-powered engines will contribute in reducing this fuel consumption.

Vehicle Fleet by Type of Fuel

During the period 2017-2031, the total vehicle fleet will increase by 20.4%, an addition of 7.1 million vehicles; from these, 3.6 million will correspond to electric engines. It is important to highlight the shift to electric cars, which has contributed to the decrease in the automotive fuel markets of 2.9 million to gasoline engines, 0.8 million to diesel engines, and to a lesser extent, to LP-gas and CNG-powered vehicles (see Table 3.10).

The gasoline-powered vehicle fleet is estimated to grow 8.4% between 2017 and 2031, passing from 33.9 million units in 2017 to 36.8 million units in 2031, in all its categories. Regarding the diesel-powered vehicle fleet, from the 806 thousand units estimated in 2017 will raise to 1.6 million units by the last year of the period, standing out the category of vans and heavy-duty vans.



TABLE 3. 10 VEHICLE FLEET BY TYPE OF FUEL AND ELECTRICITY, 2017-2031
(million vehicles)

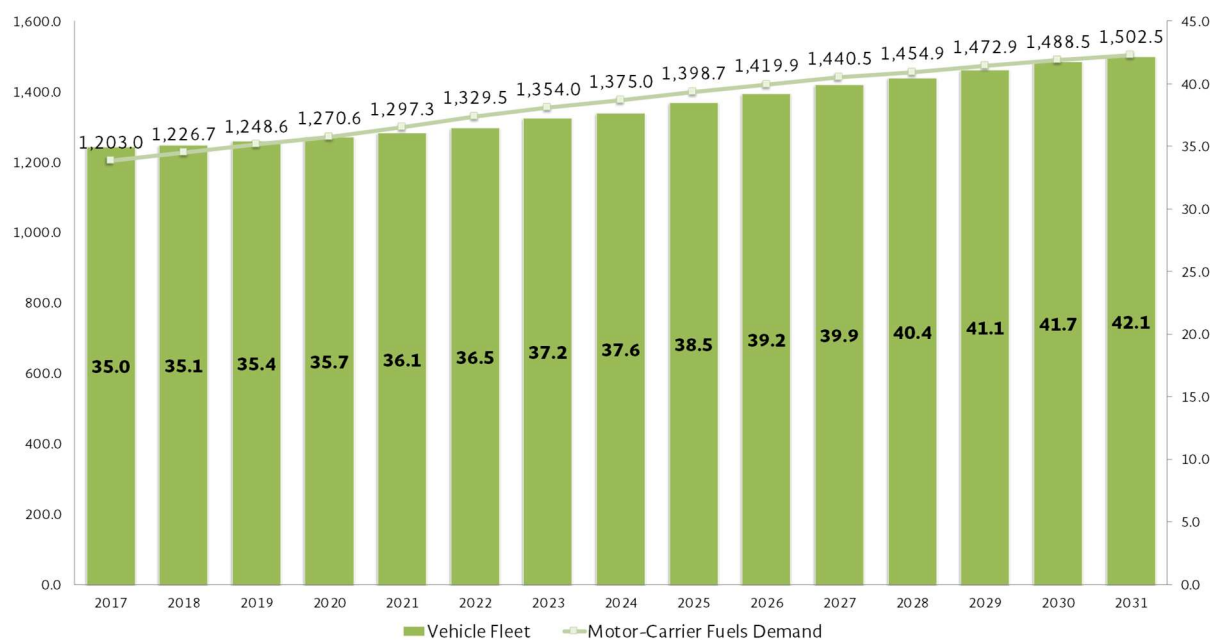
Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	35.0	35.1	35.4	35.7	36.1	36.5	37.2	37.6	38.5	39.2	39.9	40.4	41.1	41.7	42.1	1.3
Gasoline	33.9	34.0	34.3	34.6	34.9	35.1	35.8	36.0	36.6	36.9	37.1	37.0	37.0	37.0	36.8	0.6
Diesel	0.8	0.8	0.9	0.9	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.6	4.9
LP Gas	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-2.3
CNG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.9	1.3	1.8	2.4	3.1	3.6	50.1

Note: The CNG-powered vehicle fleet is so small that it seems to be zero, however, this is attributable to the rounding up of a decimal.

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

During the whole period 2017-2031, the motor-carrier fuel demand is expected to grow at a 1.6% AAGR, while the vehicle fleet by type of fuel will grow at 1.3% AAGR (see Figure 3.11).

FIGURE 3. 11
MOTOR-CARRIER FUEL DEMAND AND VEHICLE FLEET, 2017-2031
(MBDCOE and million vehicles)



Note:

* Considers gasolines, diesel, LP gas, and CNG.

* Includes all motor vehicles using highways and roads, including motorcycles.

Source: Elaborated by SENER, with information from IMP.

The gasoline-powered vehicle fleet will remain stable due to the inclusion of electric-engine vehicles. The regions which will still have the largest gasoline-powered vehicle-fleet concentration are: Central, Central Western, and Northeast, with a share of 30.4%, 22.5%, and 19.4%, respectively, in 2017; and is expected to be of 33.5%, 23.5%, and 16.6%, in the order mentioned above. On the contrary, the share in the South-Southeast and Northwest regions is estimated in 15.8% and 10.4%, respectively, displaying 15.8% and 10.4% by the end of the prospected period. Nonetheless, the Central and Central-Western regions will display the largest average growth rate (see Table 3.11).

TABLE 3. 11 GASOLINE-POWERED VEHICLE FLEET, 2017-2031
(million vehicles)

Region	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	33.9	34.0	34.3	34.6	34.9	35.1	35.8	36.0	36.6	36.9	37.1	37.0	37.0	37.0	36.8	0.6
Northwest	4.0	4.0	4.1	3.9	3.9	3.9	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.8	-0.3
Northeast	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.4	6.4	6.3	6.3	6.2	6.1	-0.5
Central-Western	7.6	7.7	7.7	7.8	7.8	7.9	8.1	8.1	8.3	8.5	8.5	8.6	8.6	8.7	8.6	0.9
Central	10.3	10.4	10.6	11.0	11.3	11.4	11.8	12.0	12.2	12.4	12.4	12.4	12.4	12.4	12.3	1.3
South-Southeast	5.4	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.5	5.6	5.7	5.7	5.8	5.8	5.8	0.6

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

As for the diesel-powered vehicle fleet, the Central-Western, South-Southeast, and Central regions are estimated to display the largest average annual growth rates, seconded by the Northeast and Northwest region (see Table 3.12).

TABLE 3. 12 DIESEL-POWERED VEHICLE FLEET, 2017-2031
(million vehicles)

Region	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	0.81	0.83	0.85	0.88	0.93	1.01	1.08	1.13	1.20	1.26	1.32	1.38	1.45	1.52	1.59	4.90
Northwest	0.07	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12	0.13	4.7
Northeast	0.19	0.20	0.20	0.21	0.22	0.23	0.24	0.25	0.27	0.28	0.29	0.30	0.31	0.32	0.33	4.0
Central-Western	0.19	0.19	0.20	0.21	0.23	0.25	0.27	0.29	0.30	0.32	0.34	0.36	0.37	0.39	0.41	5.8
Central	0.26	0.27	0.28	0.29	0.31	0.33	0.35	0.36	0.38	0.40	0.42	0.44	0.46	0.47	0.49	4.7
South-Southeast	0.10	0.10	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	5.8

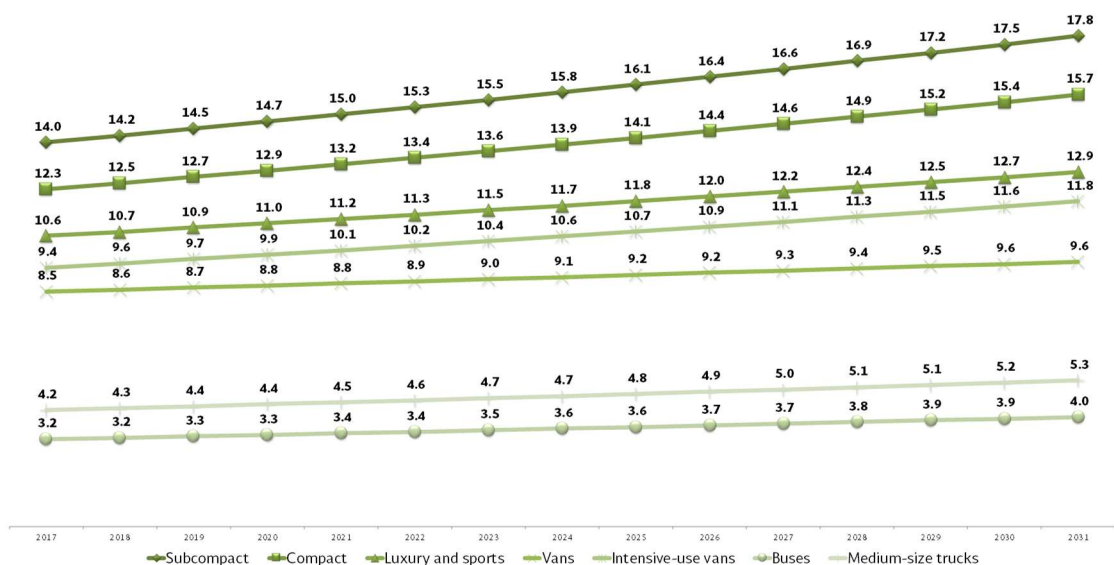
Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

Vehicle Fleet Yields, 2017-2031

A significant element to consider when projecting the fuel demand is the yield (kilometer per liter) of gasoline and diesel in the new vehicle fleet, in such way that the projection shows that buses, medium-sized trucks, and vans have lowest ranges in gasoline-powered vehicles performance. As for subcompact, compact, and luxury and sports cars will display the highest yields by the end of the prospective period (see Figure 3.12).



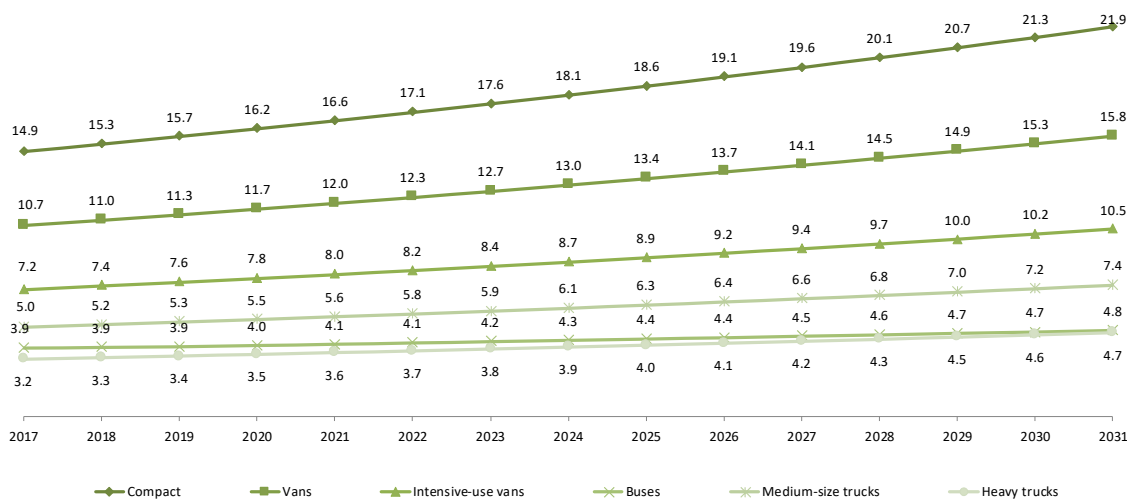
FIGURE 3. 12
AVERAGE-YIELD OF GASOLINE-POWERED VEHICLE FLEET BY CATEGORY, 2017-2031
(kilometers per liter)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

Regarding new diesel-powered vehicles, compact vehicles will display the highest yields, ranging from 14.9 km/l of gasoline equivalent in 2017 to 21.9 km/l of gasoline equivalent in 2031. On the contrary, heavy trucks and buses will show the lowest growth in their efficiencies, ranging from 4.7 km/l and 4.8 km/l, respectively in 2031. The factor defining the low efficiencies in this type of vehicles is their average age, since their performance decrease through time (see F. 3.13).

FIGURE 3. 13
AVERAGE YIELD OF DIESEL-POWERED VEHICLE FLEET BY CATEGORY, 2017-2031
(kilometers per liter)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

On the other hand, the Mexican automotive industry has moved towards producing more energy-efficient vehicles compliant with environmental and safety standards. The new vehicle market, currently innovating in fuel efficiency and alternative fuels (hybrid electric) has become relevant, and the vehicle companies are now investing in research and development operations to offer new environmental friendly technologies, and even to migrate towards new fuel sources, such as hydrogen and electric power.

Aerial, Maritime, and Rail Transport

During the next fifteen years, the jet fuel demand will increase by 50.2%, going from 76.7 MBD in 2017 to 115.2 MBD by the end of the period. Jet fuel is destined to meet the aerial sector demand, having thus a direct relationship with the behavior of this sector; for instance, a growth in the airlines aerial fleet, the introduction of more efficient aircrafts, flights with a higher occupancy level, as well as investments in the development of the Mexico City's New Airport (NAICM, for its Spanish acronym), among other, will have a significant influence on this oil product consumption (see Table 3.13).

As for the diesel demand of the maritime transport sector, it depends on the Industrial-GDP growth expectations, maritime freight services, and its direct relationship with global trade. Based on these considerations, during the coming 15 years the average consumption is expected to reach 13.2 MBD, an average annual decrease of 0.1%.

TABLE 3. 13 FUELS DEMAND IN THE RAIL, MARITIME, AND AERIAL TRANSPORT, 2017-2031
(MBD)

Fuel	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Railway Transportation	13.7	14.1	14.5	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.5	19	19.6	20.2	20.8	3
Diesel	13.7	14.1	14.5	14.9	15.4	15.9	16.4	16.9	17.4	17.9	18.5	19	19.6	20.2	20.8	3
Maritime Transportation	14.3	13.7	13.5	13.3	13.2	13.3	13.4	13.5	13.5	13.6	13.7	13.8	13.9	14	14.1	-0.1
Diesel	13.9	13.3	13	12.8	12.7	12.8	12.9	13	13.1	13.2	13.3	13.4	13.4	13.5	13.6	-0.1
Fuel Oil	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0
Aerial Transportation	76.7	78.9	81	83.9	86.3	88.8	91.4	94	96.7	99.5	102.5	105.5	108.6	111.9	115	2.9
Jet Fuel	76.7	78.9	81	83.9	86.3	88.8	91.4	94	96.7	99.5	102.5	105.5	108.6	111.9	115	2.9

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

The projections on the rail transport diesel consumption points to an average annual demand of 17.0 MBD. This moderate estimate is mainly related to the introduction of more efficient locomotives.

It is important to highlight diesel is the most consumed oil product by the rail freight transport, for industrial products, as well as for agricultural, forestal, and passengers. To date, there are eight companies in charge of freight transport and of the only suburban railway currently operating in the Valley of Mexico (running from Buenavista in Mexico City to Cuatitlan in the State of Mexico). The project Interurban Train Mexico City-Toluca present considerable advances, and its expect to start operations in 2018.



3.5.2. Electricity Sector

Private parties have always participated in electricity generation, but in different modalities and different regulations. In fact, Independent Power Producers (IPP) are the most important generators. The difference made by this new legislation and regulation is the creation of an electricity market and to have lifted many of the restraints on private parties to generate, buy and sell electricity, as power and as GWh.

The National Electricity Sector, incorporated to the Wholesale Electricity Market, began operations on January 2016. In order to have an impact on fuel consumption, the National Electricity Sector has lifted the restrictions on the private sector for participating in the electricity generation and has created an electricity market. The estimates on the electricity sector fuel demand were based on the criteria, assumptions, and long-term considerations of the Development Program for the National Electricity System 2017-2031 (PRODESEN, for its Spanish acronym).

In 2031, this sector's expected total fuel demand is 12.4% larger than in 2017, due to a marginal variation in the oil products consumption that results in an AAGR virtually nonexistent. The rules for participating in the Wholesale Electricity Market are focused on the availability and efficiency of generating technologies, foreseeing an increase in the natural gas consumption that will reduce the consumption of conventional fuels like fuel oil, coal, and diesel. The natural gas demand represented 69.7% of the total in 2017 and will raise to 82% in 2031 (see Table 3.14).

TABLE 3. 14 ELECTRICITY SECTOR FOSSIL FUELS DEMAND, 2017-2031
(MBDCOE)

Fuel	Annual Data															AAGR 2017- 2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	1,111.4	1,111.2	1,113.4	1,129.6	1,144.3	1,132.3	1,121.5	1,137.2	1,163.1	1,206.0	1,220.4	1,257.2	1,249.1	1,243.0	1,250.0	0.8
Fuel Oil	140.3	109.6	67.9	54.7	45.9	32.4	27.9	21.7	20.9	24.5	24.4	25.5	28.6	28.6	30.8	-10.3
Coal	176.5	176.5	180.6	181.3	199.5	199.5	199.5	199.4	199.5	199.5	199.5	191.2	174.3	165.7	165.7	-0.5
Petroleum Coke	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	0
Diesel	19.1	14.5	12.4	14.5	13.0	10.2	12.0	10.1	10.6	10.2	10.4	9.6	8.0	7.4	7.1	-6.8
Natural Gas	755.1	790.2	832.1	858.8	865.5	869.8	861.8	885.8	911.8	951.5	965.8	1,010.6	1,017.9	1,020.9	1,026.1	2.2

Source: Elaborated by IMP, based on CFE, PEMEX, SENER and private companies.

In 2017, the fuel oil demand (140.3 MBDCOE) is attributable to events such as: a) the reduction in the price of this fuel during the last two years; b) the availability of infrastructure and natural gas supply to dual fuel power plants which can use natural gas or fuel oil; and c) completion of power plants which CFE plans to consume fuel oil or natural gas according to the fuels market prices. During 2017-2031, some CFE and private-owner power plants will demand small amounts of fuel oil and will considerably reduce its consumption. For the rest of the studied period, the electricity sector demand will decrease at an average rate of 10.3%.

The estimate of diesel for electricity generation processes (in some internal combustion and mobile gas turbine power plants) displays an average consumption of 11.27 MBDCOE. Regarding petroleum coke to generate electricity, it will only be consumed in activities related to the cement and mining industries. Between 2016 and 2031, this fuel average demand will be of 20.3 MBDCOE, which will be destined to two power plants located in San Luis Potosi.

3.5.3. Industrial Sector

One of the main variables considered for elaborating the prospective scenario for industrial fuels (petroleum coke, natural gas, LP gas, and diesel) are their retail prices, since they have a direct impact on deciding or not to replace fuels, such as fuel oil with natural gas. The industrial sector fuel demand is directly related to the behavior of the country's economic activity (GDP of each of the industrial sector branches), plans on the fuels consumption demand within this sector; technological innovations in the efficiency of the production processes of companies and power plants using these fuels.

Natural gas is the most demanded fuel in the industrial sector, with an AAGR estimated in 2.0% for the next 15 years. This percentage is higher than the average growth rate of this sector's total fuel demand, estimated in 1.5%; an increase from 258.2 MBDCOE in 2017 to 338.9 MBDCOE in 2031, and which means that natural gas has been replacing other fuels. While in 2016, natural gas represented 68.9% of the total fuel consumption, by the end of the prospected period, it will reach 73.6%. This replacement will have an impact, mostly, on fuel oil, whose consumption will be practically nonexistent. Its high-pollutant emissions (CO₂, CO, SO_x, among other), as well as its usage restrictions, and the advantages of natural gas, point out a high probability that, in the short term, the industrial sector will totally replace fuel oil with natural gas (see Table 3.15).

TABLE 3. 15 INDUSTRIAL SECTOR FUEL CONSUMPTION, 2017-2031
(MBDCOE)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	374.4	393.1	416.3	429.2	434.2	438.9	443.1	447	449.6	452.6	454.8	456.1	457.4	458.2	460.2	1.5
Fuel Oil	6.2	4.1	2.1	0	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum Coke	61.9	66.1	64.6	64.8	66	66.9	67.8	68.5	68.7	69.3	69.3	68.9	68.8	68.5	69	0.8
Natural Gas	258.2	274.9	301.8	316.2	319.7	323.2	326.2	329.1	331.2	333.2	335	336.3	337.2	337.9	338.9	2
LP Gas	19.7	19.5	19.1	19.2	19.3	19.3	19.4	19.5	19.6	19.7	19.9	20	20.2	20.5	20.7	0.4
Diesel	28.4	28.5	28.7	29	29.2	29.4	29.7	29.9	30.1	30.4	30.6	30.9	31.1	31.3	31.6	0.8

Source: Elaborated by IMP, based on information from BANXICO, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

The petroleum coke demand is associated to the cement industry⁵²; therefore, the petroleum coke projection is based on the different investment programs on cement plants, the growth of the scenario for the group of non-metallic minerals branch, and its efficiency factor. This fuel is consumed due to its relatively low price compared to natural gas and fuel oil, and because the cement industry has developed technologies which enable its combustion with an appropriate management of NO_x and SO_x emissions.

Based on the latter, petroleum coke will display an AAGR of barely 1.2%. Its share in the industrial sector total fuels demand decreases, from 16.5% in 2017 to 14.9% in 2031. From the industrial branches with and intensive consumption, stands out the cement industry with 89.0% in 2017, and 88.5% in 2031 (see Table 3.16).

⁵² Currently, there are 32 cement plants in the country which can consume petroleum coke, though some of them are not operating. It is important to mention that the projection of the petroleum coke demand at industrial level is estimated by cement plant.



TABLE 3. 16 INDUSTRIAL SECTOR PETROLEUM-COKE DEMAND BY GROUP OF BRANCHES, 2017-2031 (MTA)

Branch Group	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	4290.2	4581.2	4476.7	4506.6	4572.1	4639.8	4701.3	4761.9	4759.8	4806.1	4802.7	4789.5	4770.9	4750.2	4783.8	0.6
Cement	3819.2	4102	4010.1	4042.2	4095.6	4151.3	4201.1	4250	4242.8	4278.8	4270.8	4253.8	4232.3	4208.9	4234	0.6
Basic metals	59.7	61.1	59.7	59.6	61.2	62.8	64.4	65.9	66.6	68	68.6	69.1	69.6	70	71.2	1.4
Chemical	234.9	237	229.9	228.1	233	238.2	243.3	248.5	250.3	254.6	256.3	257.5	258.3	258.9	262.4	0.7
Metal products, electricity and transportation	50.7	51.9	50.7	50.7	52.2	53.6	55	56.3	56.8	57.9	58.4	58.8	59	59.1	60	1.6
Glass	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Rest	125.4	128.9	126	125.8	129.7	133.6	137.2	140.9	142.9	146.4	148.2	150	151.5	153	156	1.6

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

The regions of the country which concentrate the petroleum coke largest consumptions are related with the location of the cement industry, such as the Central and Central-Western, which concentrate 65%, average, of this industry petroleum coke demand throughout the period 2017-2031 (see Table 3.17).

TABLE 3. 17 REGIONAL CONSUMPTION OF PETROLEUM COKE IN THE CEMENT INDUSTRY, 2017-2031 (MTA)

Region	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	3,819.2	4,102.0	4,010.1	4,042.2	4,095.6	4,151.3	4,201.1	4,250.0	4,242.8	4,278.8	4,270.8	4,253.8	4,232.3	4,208.9	4,234.0	0.7
Northwest	362.6	426.9	419.8	463.3	468.1	473.0	477.3	481.4	479.2	481.9	479.7	476.4	472.7	468.9	470.4	1.9
Northeast	323.4	383.0	377.9	380.4	388.0	395.9	403.3	410.7	412.6	418.7	420.5	421.3	421.6	421.6	426.6	2.0
Central-Western	1,048.9	1,026.7	1,001.2	996.2	1,006.8	1,017.7	1,027.2	1,036.5	1,032.0	1,038.2	1,033.6	1,027.0	1,019.3	1,011.3	1,014.8	-0.2
Central	1,493.4	1,657.4	1,623.8	1,623.2	1,648.0	1,673.8	1,697.3	1,720.5	1,721.0	1,738.8	1,738.9	1,735.1	1,729.4	1,722.8	1,736.1	1.1
South-Southeast	590.9	608.0	587.4	579.0	584.8	590.8	595.9	600.9	598.0	601.2	598.2	594.0	589.2	584.3	586.0	-0.1

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

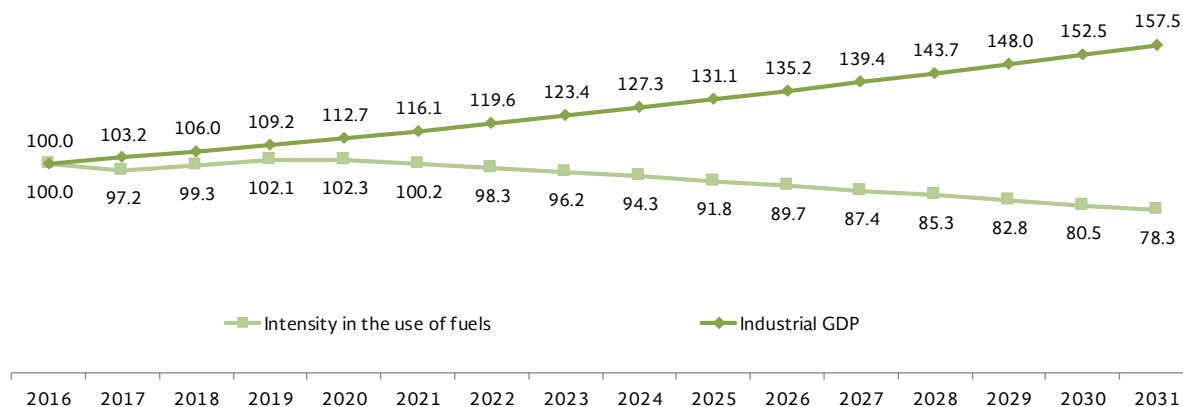
The diesel and LP gas average demands are expected to reach 31.6 MBDCOE and 20.7 MBDCOE, respectively, with an AAGR of 1.2% and 0.6% during the studied period. As for fuel oil, it is expected that it will not be demanded by the industrial sector by 2019. Between 2017 and 2019, its average consumption is estimated in 4.1 MBDCOE as a result of replacing this fuel with natural gas due to their price differential: for example, by 2016, fuel oil price was 2.8 times higher than natural gas (both accounted for dollars per MMBTU). Polluting emissions is another important factor to stop using fuel oil, given that the latter pollutes more than natural gas.

A better use of fuel and its replacement to achieve a higher efficiency in the industrial sector will be reflected in an improvement (decrease) of energy intensity. Energy intensity is the relationship between the industrial sector fuel consumption and the behavior of the manufacturing GDP. Such intensity decreases from 97.2 in 2017 to 78.3 in 2031 (see

Figure 3. 14). Some of the measures for the efficient use of energy are to optimize processes and replace fuels.

FIGURE 3. 14 INDUSTRIAL SECTOR INTENSITY IN THE USE OF HYDROCARBONS AND MANUFACTURING GDP, 2016-2031

(Index, 2012=100)



Source: Elaborated by IMP, based on information from BANXICO, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

3.5.4. Oil Sector

The oil sector is expected to increase its fuels demand in 75.1% from 2017 to 2031. During this period, fuel-oil consumption will average 23.5 MBDCOE and diesel, 13.8 MBDCOE. Generally, this sector uses fuel oil for producing useful heat in its production processes (see Table 3.18).

TABLE 3. 18 TOTAL FUELS DEMAND IN THE OIL SECTOR, 2017-2031
(MBCOE)

Fuel	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total	24.1	34.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	3.8
Gasolines	1.1	2.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	7.7
Diesel	6.9	10.8	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	5.1
Fuel Oil	16.1	21.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2	2.8

Source: Elaborated by SENER based on information from PEMEX.

3.6. Oil-Products Foreign Trade

The oil products production is expected to increase by 79.6% between 2017-2031, while their demand will raise 15.3%, attributable to a larger consumption of gasolines. Even with the investments in refining capacity, the distillates production will have a negative balance, though the breach in the balance of trade will be reduced. From 2017 to 2031, oil products imports are expected to reduce by 48.7%, while exports will increase in 6.6%.

By type of fuel, the prospective is the gasoline demand to remain above its domestic supply. During 2017-2031, the deficit is expected to reduce from 500.6 MBD to 356.2 MBD, 33.3%, by 2031. During all the estimate period, gasoline imports will average 30.8% of the domestic demand (see Figure 3.15).

FIGURE 3. 15
GASOLINES FOREIGN TRADE, 2017-2031
(MBD)



Source: Elaborated by IMP, based on information from IEA, AMDA, AMIA, ANPACT, CRE, INEGI, EPA, PEMEX, SENER and private companies

During the whole period 2017-2031 three moments can be identified regarding diesel's trade balance: 1) within the first five years, the domestic supply is lower than the domestic demand, making it necessary to cover this lack with imports. From 2017-2022, diesel averages a production of 289.3 MBD; an import level of 155.6 MBD; and a demand of 439.4 MBD. 2) From 2023 to 2025, the average production increases to 405.3 MBD while imports reduce averaging 80.4 MBD. 3) Finally, during the last years of the projection, a new deficit balance occurs when the supply is below to the demand (see Figure 3.16).

FIGURE 3. 16
DIESEL FOREIGN TRADE, 2017-2031
(MBD)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SCT, SENER and private companies.



During 2017-2031, the jet fuel domestic production and demand will display an AAGR of 3.02%. However, even if this fuel production does not increase, it cannot meet the aerial sector level of consumption, bringing about a fuel deficit. This will make it necessary to import jet fuel to serve the domestic demand, though imports will decrease 9.27 MBD regarding 2016 (see Figure 3.17).

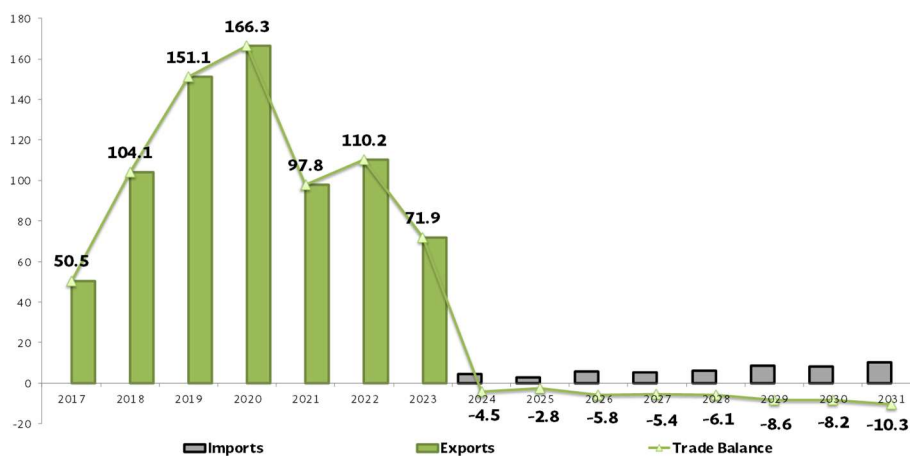
FIGURE 3.17
JET FUEL FOREIGN TRADE, 2017-2031
(MBD)



Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.

It is expected that during 2017-2031, the fuel-oil domestic demand continues its sharp downward trend. Fuel oil is foreseen to be totally replaced with other fuels, such as natural gas, in different sectors, mainly electricity and industrial. The latter brings about a positive balance between 2017 and 2020 due to a fuel surplus which will be sent to export. Starting 2021, the Tula and Salamanca refineries are expected to stop producing fuel oil (see Figure 3.18).

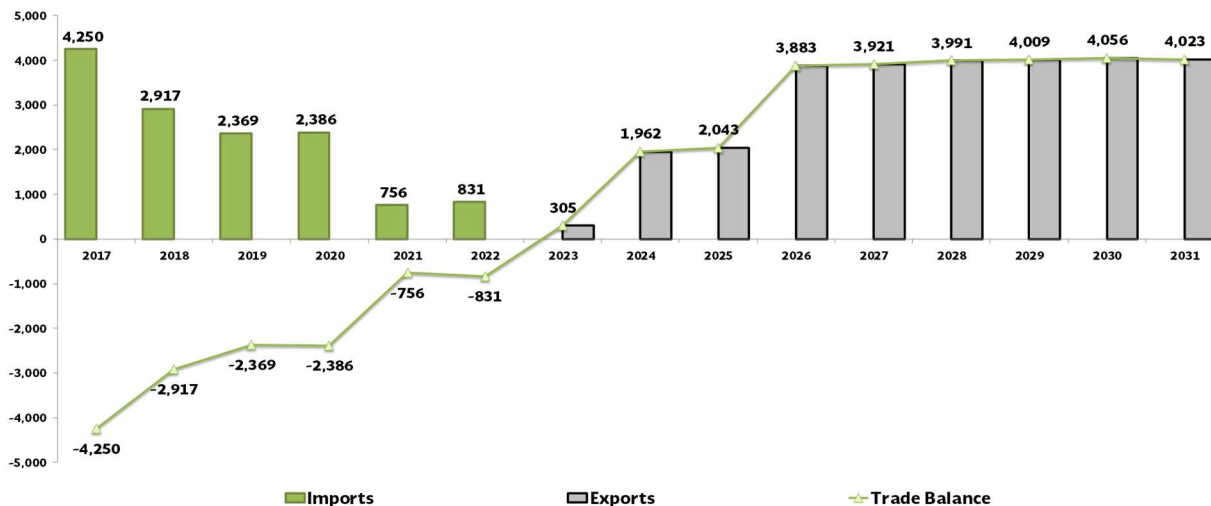
FIGURE 3.18
FUEL OIL FOREIGN TRADE, 2017-2031
(MBD)



Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

Petroleum coke production during 2017-2023 will be insufficient to cover the domestic demand, mainly composed by the cement branch and the electricity sector. Therefore, such demand should be served through imports, averaging 1,852.6 MTA for the next five years. Starting 2023, the new deep-conversion upgrading in Tula, Salamanca, and Salina Cruz will foster a better use of residuals. Thereby, from 2023 to 2031, and due to a surplus in the production of petroleum coke, this fuel will present a positive balance. By 2023, the petroleum coke production levels will be twofold compared to the last five years, which will allow having an export capacity by more than 50% of this product (see Figure 3.19).

FIGURE 3.19
PETROLEUM COKE FOREIGN TRADE, 2017-2031
(MTA)



Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies



ANNEX A. MOTOR-CARRIER SECTOR

Gasolines and diesel historical retail prices were administered by the Federal Government through the Secretariat of Finance and Public Credit of Mexico (SHCP, for its Spanish acronym) with economic and financial policy purposes. Thereby, the variations observed in their prices did not correspond to the market laws. The agreement No. A/059/2016 establishes the flexibilization schedule for gasolines and diesel prices. In January 1st, 2018, retail prices will be defined under market conditions⁵³.

With the flexibilization of the gasoline and diesel market, it is expected a competence to distribute fuels, thus generating a better quality and service. Pemex, which was the sole fuel provider in Mexico, will now have the faculty to provide storing and transportation through pipeline to other competitors, under the supervision of the CRE. In addition, the open season is expected to bring a better fuel supply in all the country.

The CRE will be giving flexibility to prices which will therefore fluctuate according to the market conditions. The final prices will not reflect fiscal or administrative decisions, but all the costs related to the production chain. To this purpose, the country was divided into 90 regions (7 in the border and 83 in the rest), where the maximum prices will differ since they will reflect the costs of transporting fuels to each of them. The SHCP will establish the maximum prices while prices become more flexible in each zone.

In granting fuel retailing permits to third parties, the free import of gasolines and diesel is allowed, and their prices will be determined by an open market conditions. It is worth mentioning that for the Motor-Carrier Sector prices in this prospective exercise 2017-2031, the scenario is based on the assumption of retail liberalized prices⁵⁴.

These prices are weighted for each of the seven regions within the country according to the sales of each of the distribution and storage terminals (TARs) corresponding to these regions. Each TARs' prices correspond to the average price of magna gasoline, premium gasoline, and diesel in the service stations of their respective zone of influence.

The motor-carrier model considers the regions: Northwest, Northeast, Central-Western, Central, South-Southeast, as well as the state of Nuevo Leon and Metropolitan Zone (State of Mexico and Mexico City) with 87 TARs, including 11 which will start operating within the following years⁵⁵, such as:

1. San Jose Iturbide (Gas Natural), in the state of Guanajuato
2. Tula (Monterra), in the state of Hidalgo.
3. Tula (TransCanada), in the state of Hidalgo
4. Tula (Invex), in the state of Hidalgo
5. Tizayuca (Invex), in the state of Hidalgo

⁵³ http://www.dof.gob.mx/nota_detalle.php?codigo=5467173&fecha=26/12/2016.

⁵⁴ Considered to entry into force in 2018.

⁵⁵ These prices weight each of the regions mentioned above, according to the sales of each of the TARs which correspond to these regions. Each TARs price corresponds to the average price of magna gasoline, premium gasoline, and diesel in the service stations of their respective zone of influence.

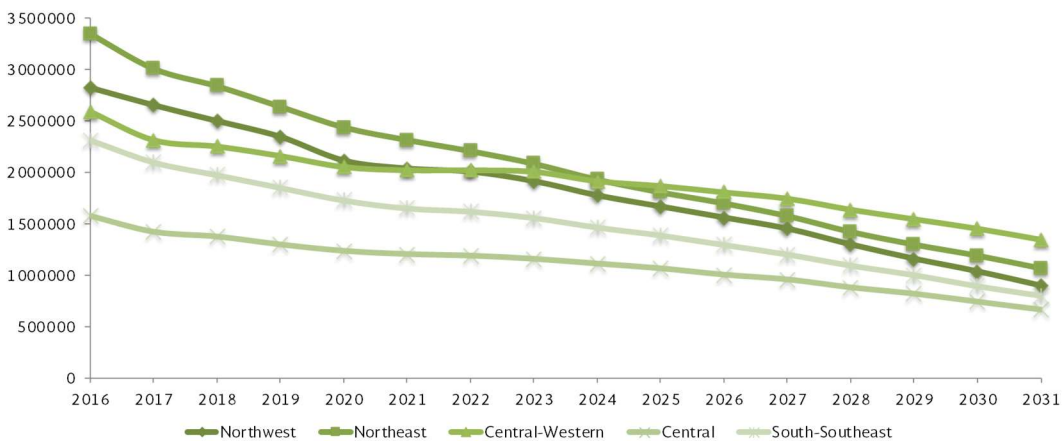
6. Lagos de Moreno (Olstor), in the state of Jalisco
7. Acolman (Hydrocarbon), in the state of Nuevo Leon
8. Monterrey (Howard), in the state of Nuevo Leon
9. San Luis Potosi (Interport), in the state of San Luis Potosi
10. Nuevo Laredo (Howard), in the state of Tamaulipas
11. Veracruz (Vopak), in the state of Veracruz

An essential factor in the motor-carrier sector development is the introduction of new technologies, which is reflected in the future composition of the vehicle fleet. Additionally, it was considered the reduction of imported used vehicles, derived from the measures taken by the SAT:

- Establish a 48% tariff over the purchase of used vehicles from abroad.
- Schedule specific times for vehicles entry through the northern border customs.
- Carry out tax audits to import companies and their partners, as well as to customs officers who, foreknowing the irregularity of the procedure, assist importers.
- Request of US customs certificates which guarantee the vehicles can be exported.
- Vehicles considered as waste, totaled, robbed, unsafe, or which overpass the limits of pollutant emissions allowed.

Based on the aforementioned, and according to the model's results it can be established that for the period 2017-2031, the five regions included in the study display a decrease in their annual rate of used-vehicles import as follows: Northwest region with a 7.5% rate; Northeast, 7.2%; Central-Western, 3.8%; Central, 5.2%; and South-Southeast, 6.8% (see Figure A.1). This distribution will be mostly reflected on vans, followed by subcompact vehicles, and luxury and sports automobiles.

FIGURE A. 1 DECREASE ON IMPORTED USED VEHICLES BY REGION
(units)

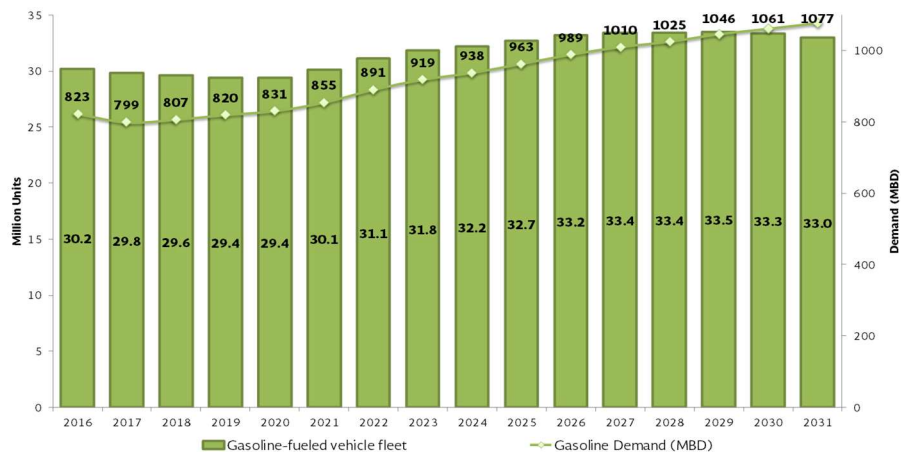


Source: Elaborated by IMP, based on AMIA, SAT, and private companies.



The gasoline demand for the period 2017-2031 considers a shift in the private service modality to public service, due to the investment in public transportation infrastructure, besides taking into account the decrease on imported used vehicles, as well as a better penetration of electric and hybrid vehicles since 2017, and the improvement on vehicle yields. In this context, the gasoline demand will grow 2.2% average in the prospected period, raising from 798.6 MBD in 2017 to 1,076.6 MBD in 2031. This demand includes saving measures in energy for motor-carrier, which explains the moderate growth of gasoline consumption (see Figure A.2).

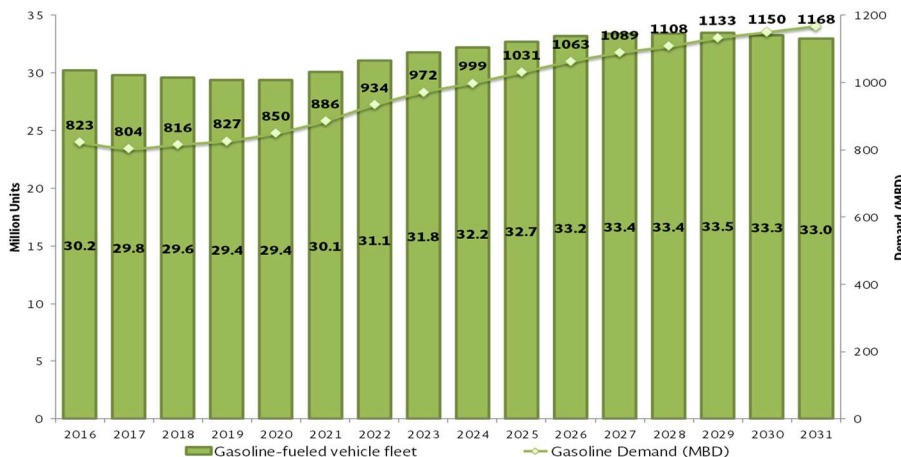
FIGURE A. 2 VEHICLE FLEET AND GASOLINE DEMAND, 2016-2031
BASE SCENARIO
(Million units and MBD)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, Pemex, SENER and private companies.

For a demand scenario with low savings, the trend in gasoline consumption is displayed in Figure A.3.

FIGURE A. 3 VEHICLE FLEET AND GASOLINE DEMAND, 2016-2031
BASE SCENARIO WITH LOW SAVING
(Million units and MBD)

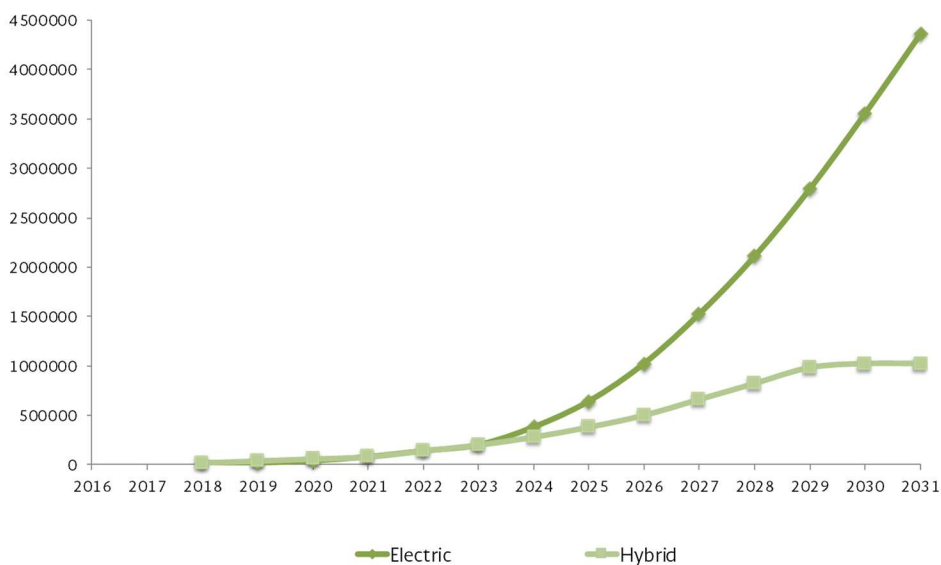


Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, Pemex, SENER and private companies.

The difference in the gasolines consumption between the base-scenario-with-low-savings and the base scenario is attributable to the savings measures implemented, which include an improvement in the vehicles' yields (due to more efficient combustion systems, reduction of friction losses in the drive system and power-transmission systems, and to the use of lighter materials which reduce the vehicles' weight).

As for electric vehicles, these are expected to increase at an average annual rate of 52.6% during 2017-2031, going from 7,684 units in 2017 to 4,359,700 in the last year of the period. Regarding hybrid vehicles, its annual growth is expected to reach 30%, going from 11,943 in 2017 to 1,036,900 in 2031. These automobiles display high growth expectations; hence, members of the automotive sector, the CFE, and AMIA are taking meaningful steps to foster this technology in Mexico. Only in the month of July 2016, more than 300 electric units were traded for private use, fleets, and units within the electricity-cabs program in Mexico City and Aguascalientes.

FIGURE A. 4 BEHAVIOR OF THE ELECTRIC FLEET, 2016-2031
(units)



Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, Pemex, SENER and private companies.

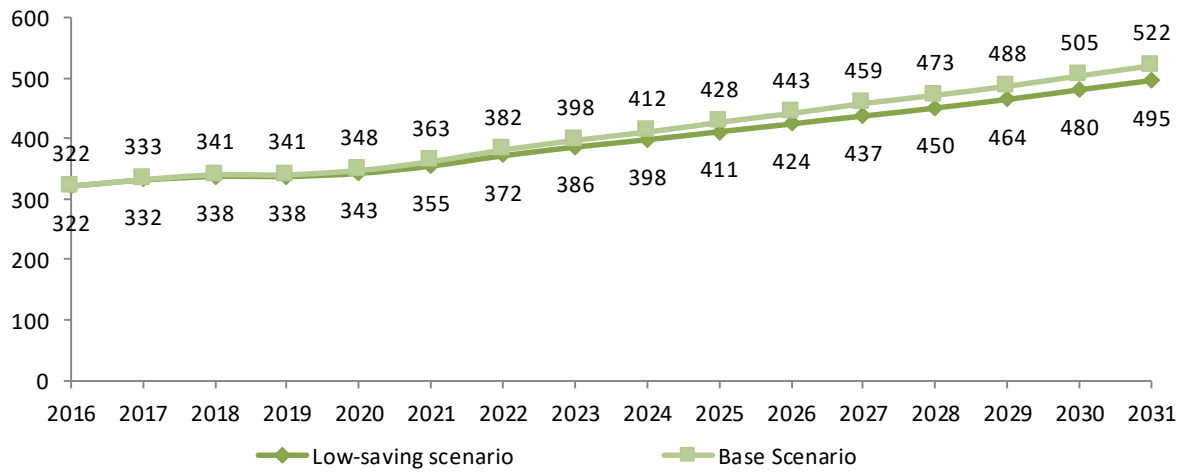
On the other hand, investments have been made to generate the infrastructure of fast-charging stations, which can charge to an 80% the battery's capacity in approximately 20 minutes⁵⁶. This type of stations will be fed by a solar-panels system, thus fostering the sustainability chain through the use of renewable energies. Recently, one of these stations was opened in Guadalajara.

Regarding the diesel-powered vehicle fleet by 2017 (including the Metrobus) is estimated to reach 791,900 units, and by 2031, 1,543,800 units. Diesel demand will display an AAGR of 3.3% in the base scenario, going from 333.3 MBD in 2017 to 522.2 MBD in 2031. The expected growth in the prospective period in the base scenario as well as in the low-saving scenario can be observed in Figure A.5.

⁵⁶ The average time to charge a battery to 100% is of 4 hours.



FIGURE A. 5 DIESEL DEMAND IN THE MOTOR-CARRIER SECTOR, 2016-2031
BASE SCENARIO AND LOW-SAVING SCENARIO
 (MBD)



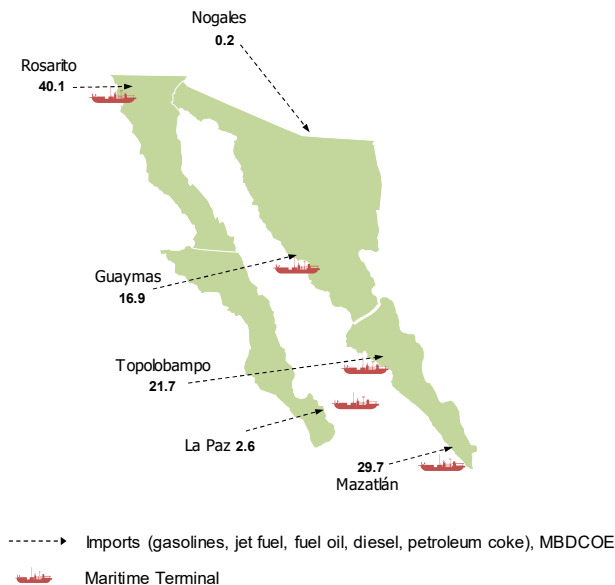
Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, Pemex, SENER and private companies.

Based on the results of Figure A.5 it can be observed the demand in the base scenario is slightly higher than in the low-saving scenario, growing at an AAGR of 3.3%, mainly because the base scenario it was considered as “shift of modality” from private to public use, which implies a lesser use of private transportation and an increased use of urban transportation and the Metrobus, which also reflects an increase in this fuel consumption by the public transportation.

ANNEX B. OIL-PRODUCTS DOMESTIC MARKET 2016

B.1. Northwest Region

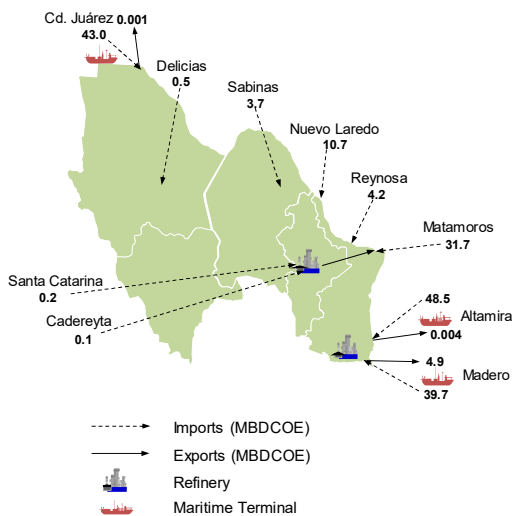
FIGURE B. 1 OIL-PRODUCTS IMPORTS, NORTHWEST REGION (MBDCOE)



Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, Pemex, SE, Sener and private companies.

B.2. Northeast Region

FIGURE B. 2 OIL-PRODUCTS IMPORTS, NORTHWEST REGION (MBDCOE)

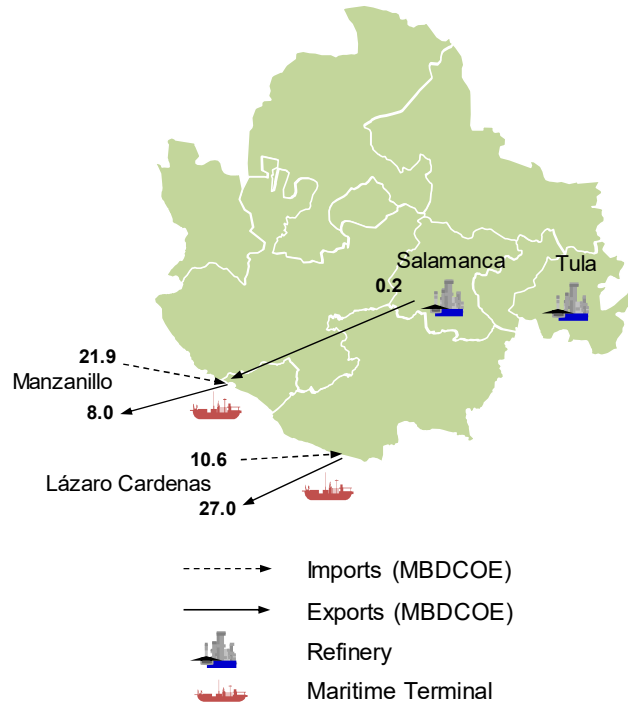


Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, Pemex, SE, Sener and private companies.



B.3. Central-Western Region

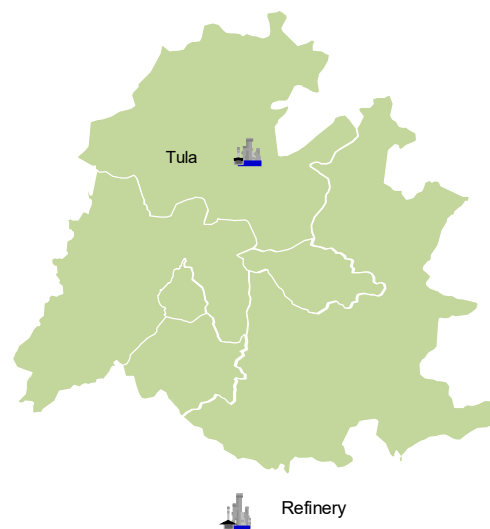
FIGURE B. 3 OIL-PRODUCTS IMPORTS, CENTRAL-WESTERN REGION (MBDCOE)



Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, Pemex, SE, Sener and private companies.

B.4. Central Region

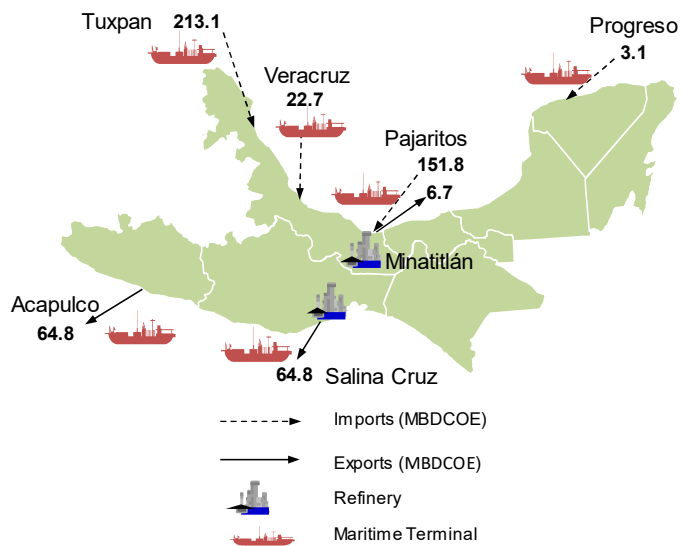
FIGURE B. 4 OIL-PRODUCTS IMPORTS, CENTRAL REGION (MBDCOE)



Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, Pemex, SE, Sener and private companies.

B.5. South-Southeast Region

FIGURE B. 5 OIL-PRODUCTS IMPORTS, SOUTH-SOUTHEAST REGION
(MBDCOE)



Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, Pemex, SE, Sener and private companies.



ANNEX C. HISTORICAL AND PROSPECTIVE DOMESTIC BALANCES

Supplementary statistics of oil and oil-products, 2006-2016 and 2017-2031

TABLE C. 1
OIL-PRODUCTS DOMESTIC BALANCE, 2006-2016
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	1,595.2	1,637.8	1,689.8	1,676.8	1,669.4	1,700.9	1,733.8	1,693.2	1,645.6	1,656.0	1,670.3	0.5
Production	1,205.3	1,190.0	1,183.2	1,219.8	1,117.2	1,069.5	1,096.9	1,137.5	1,072.5	992.0	853.3	-3.4
Cadereyta	197.0	203.0	201.2	205.8	169.4	159.3	177.6	179.0	169.8	153.3	116.7	-5.1
Madero	154.3	143.7	146.1	144.1	122.7	101.1	116.3	121.8	108.0	118.4	77.0	-6.7
Tula	251.5	267.2	247.7	274.4	247.1	255.0	251.8	224.6	228.9	217.5	184.3	-3.1
Salamanca	166.1	153.7	159.7	158.3	157.4	140.2	149.7	165.9	143.0	123.9	145.0	-1.3
Minatitlán	165.6	162.2	160.3	168.0	163.3	150.7	162.6	172.6	168.3	152.8	112.4	-3.8
Salina Cruz	270.9	260.2	268.1	269.2	257.3	263.1	238.9	273.5	254.4	226.1	217.9	-2.2
Import	389.9	447.8	506.7	457.0	552.2	631.4	636.9	555.7	573.2	663.9	817.1	7.7
Destination	1,576.4	1,644.0	1,672.8	1,677.8	1,662.8	1,671.3	1,688.4	1,685.2	1,623.5	1,628.6	1,661.9	0.5
Domestic demand	1,529.5	1,597.1	1,600.5	1,544.4	1,537.9	1,568.7	1,605.4	1,575.4	1,493.4	1,504.7	1,548.6	0.1
Transportation Sector	1,093.4	1,158.5	1,207.7	1,174.8	1,196.8	1,202.7	1,217.7	1,196.1	1,193.5	1,209.8	1,249.5	1.3
Electricity Sector	241.0	233.9	208.6	205.7	191.0	210.9	237.0	215.7	148.2	134.2	145.2	-4.9
Industrial Sector	141.9	149.9	129.9	110.0	101.7	106.3	105.7	114.2	104.6	116.4	122.7	-1.4
Oil Sector	53.2	54.7	54.3	53.8	48.3	48.8	45.0	49.4	47.2	44.3	31.1	-5.2
Export	46.9	47.0	72.3	133.5	124.9	102.6	83.1	109.8	130.0	123.9	113.3	9.2
Inventories Variation	18.8	-6.2	17.0	-1.0	6.6	29.6	45.3	8.0	22.2	27.3	8.4	-7.7

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, SCT, PEMEX, SE, SENER and private companies.

TABLE C. 2
OIL-PRODUCTS BALANCE 2006-2016, NORTHWEST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	227.7	236.1	224.7	218.2	218.6	233.7	239.4	222.2	209.6	204	213.6	-0.6
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	27.8	57.1	88.4	70.1	60.5	74.7	84.2	60.1	60.1	92.7	121.7	15.9
From other regions	200	178.9	136.3	148.1	158.1	159	155.2	162	149.6	111.3	91.9	-7.5
Destination	225.9	236.5	224	217.6	218.4	232.4	236	221.6	207.9	201.2	212.9	-0.6
Domestic demand	225.9	236.5	224	217.6	218.4	232.4	236	221.6	207.9	201.2	212.2	-0.6
Transportation Sector	144.3	152.8	160.5	151	153.1	157	159.7	155.9	153.2	156.9	168.7	1.6
Electricity Sector	66.4	68	51.8	56.9	57.6	66.1	65.4	52.2	43.2	31.9	30.1	-7.6
Industrial Sector	15.2	15.6	11.7	9.7	7.8	9.4	10.9	13.6	11.6	12.4	13.4	-1.3
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	0.7	NA
Inventories variation	1.8	-0.4	0.7	0.6	0.2	1.3	3.4	0.6	1.7	2.8	0.7	-9.7

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.



TABLE C. 3
OIL-PRODUCTS BALANCE 2006-2016, NORTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	459.6	475.6	489.2	472.8	450.9	427.1	438.5	463.5	421.2	441.5	419.5	-0.9
Production	351.3	346.8	347.3	350	292.1	260.4	293.9	300.8	277.9	271.7	193.7	-5.8
Cadereyta	197	203	201.2	205.8	169.4	159.3	177.6	179	169.8	153.3	116.7	-5.1
Madero	154.3	143.7	146.1	144.1	122.7	101.1	116.3	121.8	108	118.4	77	-6.7
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	96.4	118	134.5	107.4	147.5	156.3	140	155.2	139.1	163.7	215.4	8.4
From other regions	11.9	10.9	7.4	15.4	11.2	10.4	4.6	7.5	4.2	6	10.4	-1.3
Destination	456.6	477.2	489.2	473.4	450.6	409.5	423.2	459.2	415.3	432.8	415.4	-0.9
Domestic demand	281.2	292.5	294.7	275.5	268.2	264.6	273.1	270.2	257.5	270	282.3	0
Transportation Sector	217.7	235.8	246.9	235.2	234.2	231.2	232.2	228.2	231.2	239.7	244	1.1
Electricity Sector	28.52	23.1	17.7	18.5	15.2	13.8	19	17.8	8.3	10.2	16.2	-5.5
Industrial Sector	29.9	29.7	26.1	17.8	15.7	16.8	19.2	20.1	15.5	18.2	20.7	-3.6
Oil Sector	5.1	3.9	4	4	3	2.8	2.7	4.1	2.4	2	1.4	-12.2
Export	17.1	20.7	14.5	23.2	27.1	14.9	7.6	9.1	22.9	14.1	14.3	-1.8
To other regions	158.2	164	180	174.7	155.2	130	142.5	179.9	134.9	148.6	118.8	-2.8
Inventories variation	3	-1.6	-0.1	-0.6	0.3	17.6	15.2	4.3	5.9	8.7	4.1	3.1

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 4
OIL-PRODUCTS BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	354.9	369.4	397	376	385.9	391.3	389.1	388	370.1	382.3	391.4	1
Production	166.1	153.7	159.7	158.3	157.4	140.2	149.7	165.9	143	123.9	145	-1.3
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	166.1	153.7	159.7	158.3	157.4	140.2	149.7	165.9	143	123.9	145	-1.3
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	6.3	16.4	28.4	18.7	17.1	17.5	15	8	16.1	31.6	36.4	19.1
From other regions	182.5	199.3	208.9	199	211.4	233.5	224.3	214.1	210.9	226.9	209.9	1.4
Destination	350.7	368.9	382.3	374.4	385.6	390.1	386.6	389.5	367	379.3	390.7	1.1
Domestic demand	349	366.1	378.1	361.9	364.1	367.9	369.1	373.5	337.6	344.7	353.3	0.1
Transportation Sector	256.1	266.6	274.7	273.5	281.4	281.2	283.3	278	271.7	270.8	284.8	1.1
Electricity Sector	54	58.5	66.6	54.2	47.8	54.4	59.5	62.9	37.3	40.8	34	-4.5
Industrial Sector	34.1	36.3	32.3	30.2	31.5	28.8	23.2	29	26.1	30.2	31.6	-0.8
Oil Sector	4.8	4.7	4.5	4	3.4	3.5	3.2	3.5	2.6	2.9	2.9	-4.8
Export	0.7	0	2.3	11.6	18	21.6	13.5	9.1	24.6	34.2	32.7	46.8
To other regions	1	2.9	1.9	0.9	3.5	0.5	4	6.9	4.8	0.4	4.8	16.7
Inventories variation	4.2	0.5	14.7	1.6	0.3	1.2	2.5	-1.5	3	3	0.6	-17.4

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.



TABLE C. 5
OIL-PRODUCTS BALANCE 2006-2016, CENTRAL REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	409.9	424.8	424.1	429.9	440.1	446.8	448.5	433.3	438	436	420.3	0.3
Production	251.5	267.2	247.7	274.4	247.1	255	251.8	224.6	228.9	217.5	184.3	-3.1
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	251.5	267.2	247.7	274.4	247.1	255	251.8	224.6	228.9	217.5	184.3	-3.1
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	7.2	11.9	14.8	13.2	21.1	22	24.8	-	-	-	0	-81.9
From other regions	151.2	145.7	161.7	142.3	172	169.8	171.9	208.7	209.2	218.5	236.1	4.6
Destination	406.6	427.1	424.7	430.7	434.4	443	439.9	432.3	435.5	432.8	421.7	0.4
Domestic demand	382.3	399.4	399.4	386.5	391.8	404.8	407.9	395.6	392	386.4	387	0.1
Transportation Sector	296.3	309	316.3	312.2	320.4	322.6	323.4	317.3	318.1	320.1	317.8	0.7
Electricity Sector	25.7	29.1	27.7	26.3	26.9	33.5	37.3	33	27.4	19.1	23.4	-0.9
Industrial Sector	48.7	49.4	44.1	37.8	35	38.1	39.3	37.8	37.7	39.6	40.2	-1.9
Oil Sector	11.7	12	11.4	10.1	9.5	10.6	8	7.5	8.8	7.6	5.6	-7
Export	0	0.3	0	-	0	0	0	-	-	-	0	-53.9
To other regions	24.3	27.4	25.3	44.2	42.6	38.2	32	36.6	43.6	46.4	34.7	3.6
Inventories variation	3.3	-2.3	-0.6	-0.8	5.7	3.8	8.5	1.1	2.5	3.2	-1.4	NA

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 6
OIL-PRODUCTS BALANCE 2006-2016, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	695.7	674.3	679.8	692.9	734.5	783	784.2	788.8	795.8	763.9	776.5	1.1
Production	436.5	422.4	428.4	437.1	420.6	413.8	401.5	446.1	422.7	378.9	330.3	-2.7
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	165.6	162.2	160.3	168	163.3	150.7	162.6	172.6	168.3	152.8	112.4	-3.8
Salina Cruz	270.9	260.2	268.1	269.2	257.3	263.1	238.9	273.5	254.4	226.1	217.9	-2.2
Import	252.1	244.4	240.7	247.5	306	360.9	372.9	332.4	357.9	375.9	443.5	5.8
From other regions	7.1	7.5	10.7	8.2	7.9	8.2	9.8	10.3	15.3	9.1	2.7	-9.3
Destination	689.2	676.7	677.6	694.7	734.3	777.3	768.6	785.3	786.8	754.4	772.1	1.1
Domestic demand	291	302.6	304.3	302.8	295.3	298.9	319.2	314.6	298.5	302.3	313.8	0.8
Transportation Sector	178.9	194.3	209.3	202.9	207.8	210.7	219	216.7	219.3	222.4	234.2	2.7
Electricity Sector	66.5	55.2	44.8	49.7	43.4	43.1	55.9	49.8	32	32.3	41.5	-4.6
Industrial Sector	14	19	15.7	14.6	11.7	13.2	13.2	13.8	13.7	15.9	16.9	1.9
Oil Sector	31.7	34.2	34.5	35.6	32.4	32	31.2	34.3	33.5	31.8	21.2	-3.9
Export	29.1	25.9	55.5	98.7	79.9	66.1	62	91.6	82.5	75.6	66.3	8.6
To other regions	369.1	348.1	317.8	293.2	359.1	412.3	387.3	379.1	405.9	376.4	392	0.6
Inventories variation	6.5	-2.4	2.3	-1.8	0.2	5.6	15.7	3.5	9	9.6	4.4	-3.8

NA: Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.



TABLE C. 7
FUEL-OIL DOMESTIC BALANCE, 2006-2016
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	339.5	318.5	321.6	355.4	333.3	332.5	318.1	300.1	272.2	254.3	258.7	-2.7
Production	325.2	301.5	288.7	316.2	322.3	307.5	273.4	268.8	259.2	237.4	228.1	-3.5
Cadereyta	19.6	8.5	11.5	8.7	16.2	11.2	9.9	13	15.2	11.9	13	-4
Madero	24.6	20.8	12.1	16.8	17.4	7	14.1	11.5	19	12.7	9.7	-8.8
Tula	77.5	80.2	74.3	86.2	83.8	89.7	88.6	77.5	79.1	72.1	64.9	-1.8
Salamanca	42	37.4	35.5	42.2	46.7	40.4	41.4	46.3	38.8	36.4	45.7	0.9
Minatitlán*	66.6	63.7	62.9	67.2	64.6	65.4	33.4	19.5	14.9	20.7	7.5	-19.6
Salina Cruz	95	90.9	92.4	95.1	93.5	93.9	86.1	101.2	92.3	83.5	87.3	-0.8
Import	14.3	17	32.9	39.2	11	25	44.6	31.3	13	17	30.6	7.9
Destination	336.9	327.3	314.8	363.4	335.7	331.9	308.1	310.3	275	258.3	260.8	-2.5
Domestic demand	301.3	293.8	255.8	242.2	213.4	231	238.4	215.2	146.2	134.3	147.6	-6.9
Maritime-Transportation Sector	1.2	1.2	1	0.7	0.8	0.7	0.2	0	0.2	0.4	0.4	-10.1
Electricity Sector	213.7	210	183.1	178.5	160	179.1	199.9	178.4	115.2	102	113.7	-6.1
Industrial Sector	48.8	45.6	35.5	29.8	24.1	20.8	14.3	10.9	6.5	9.3	13.6	-12
Oil Sector	37.6	36.9	36.1	33.2	28.5	30.4	24	25.9	24.3	22.7	19.9	-6.2
Export	35.6	33.6	59	121.2	122.3	100.9	69.7	95.2	128.8	123.9	113.3	12.3
Inventories variation	2.6	-8.9	6.8	-8	-2.4	0.6	9.9	-10.2	-2.8	-3.9	-2.1	NA

* Includes transferences of topped from La Cangrejera to fuel oil.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.

TABLE C. 8
FUEL-OIL BALANCE 2006-2016, NORTHWEST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	68	69	53	56.4	55	62.2	62.1	48.1	39.2	28.9	26.9	-8.9
Production	-	-	-	-	-	-	-	-	-	0	0	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	3.7	3.5	11.4	14.7	5	11.1	14.7	10	6.8	7	5.1	3.3
From other regions	64.3	65.5	41.6	41.8	50	51	47.4	38.1	32.4	21.9	21.8	-10.2
Destination	67.5	70	52.2	56.5	55.3	62.1	60.9	49	39.4	29.1	27	-8.8
Domestic demand	67.5	70	52.2	56.5	55.3	62.1	60.9	49	39.4	29.1	27	-8.8
Transportation Sector	0	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	63.3	66.1	49.5	54.2	54.8	61.4	60.8	48.9	39.4	29.1	27	-8.2
Industrial Sector	4.1	3.9	2.8	2.3	0.6	0.7	0.1	0.1	0	0	-	NA
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	0.5	-1	0.8	-0.1	-0.3	0.1	1.2	-0.9	-0.3	-0.2	-0.1	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.



TABLE C. 9
FUEL-OIL BALANCE 2006-2016, NORTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	56.6	41.3	31.6	40.4	44.1	31.1	34.3	34.5	39.3	29.3	32.1	-5.5
Production	44.1	29.2	23.6	25.5	33.7	18.2	24.1	24.5	34.2	24.7	22.7	-6.4
Cadereyta	19.6	8.5	11.5	8.7	16.2	11.2	9.9	13	15.2	11.9	13	-4
Madero	24.6	20.8	12.1	16.8	17.4	7	14.1	11.5	19	12.7	9.7	-8.8
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	3.1	3.4	3.4	2.8	2.8	4.5	5.9	4.6	2.9	0.9	1.7	-5.6
From other regions	9.4	8.7	4.6	12.1	7.6	8.4	4.3	5.4	2.2	3.7	7.6	-2.1
Destination	56.6	42.3	31.1	41.2	44.5	30.7	33.4	34.8	39.6	29.3	32	-5.5
Domestic demand	38.8	29.4	23.2	23.5	18.1	15.9	21.6	21.6	9.8	12.4	17.3	-7.8
Transportation Sector	0.2	0.2	0.1	0	0	0.2	-	-	-	-	-	NA
Electricity Sector	28	22.6	17.3	17.8	14.6	12.9	17.6	15.9	6.8	9.2	14.9	-6.1
Industrial Sector	5.5	2.8	1.8	1.6	0.4	0.1	1.3	1.7	0.6	1.2	0.9	-16.3
Oil Sector	5.1	3.9	4	4	3	2.8	2.7	4.1	2.4	2	1.4	-12.2
Export	12.4	11.9	6.7	17.7	25.7	14.8	7.6	9.1	22.8	14.1	14.3	1.4
To other regions	5.3	1.1	1.3	0	0.6	-	4.2	4.1	7.1	2.8	0.5	-21.8
Inventories variation	0.1	-1	0.5	-0.8	-0.3	0.4	0.9	-0.3	-0.3	0	0	-8

NA Not applicable.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.

TABLE C. 10
FUEL-OIL BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	55.8	57.1	70	60.8	61.2	65	55.5	58.9	47.8	58.8	59.4	0.6
Production	42	37.4	35.5	42.2	46.7	40.4	41.4	46.3	38.8	36.4	45.7	0.9
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	42	37.4	35.5	42.2	46.7	40.4	41.4	46.3	38.8	36.4	45.7	0.9
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	2	6	14.6	7.3	0.4	4	0.6	2.4	2.5	3.6	0.5	-14
From other regions	11.8	13.7	20	11.3	14.1	20.6	13.6	10.3	6.5	18.8	13.2	1.1
Destination	55.4	58.5	67.9	61.8	61.4	65.8	56.3	62.4	48	60.1	60.1	0.8
Domestic demand	54.5	56.5	64.8	50	40.7	44.1	39.1	46.7	19.1	25.9	23.1	-8.2
Transportation Sector	0.6	0.6	0.6	0.3	0.6	0.2	0	0	0.2	0.3	0.1	-17.5
Electricity Sector	34	38.5	47.4	35	24.5	31.6	33.8	37.6	13.4	17.4	13.2	-9
Industrial Sector	15.2	12.7	12.3	10.5	12.3	8.9	2.1	5.5	2.9	5.2	7	-7.5
Oil Sector	4.8	4.7	4.5	4	3.4	3.5	3.2	3.5	2.6	2.9	2.9	-4.8
Export	0.7	-	2.3	11.6	18	21.6	13.5	9.1	24.6	34.2	32.7	46.8
To other regions	0.1	2	0.8	0.3	2.7	-	3.7	6.6	4.3	-	4.3	40.6
Inventories variation	0.5	-1.4	2.2	-1.1	-0.2	-0.8	-0.8	-3.4	-0.2	-1.3	-0.7	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.



TABLE C. 11
FUEL-OIL BALANCE 2006-2016, CENTRAL REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	77.5	80.2	74.3	86.2	83.8	89.7	88.6	77.5	79.1	72.1	64.9	-1.8
Production	77.5	80.2	74.3	86.2	83.8	89.7	88.6	77.5	79.1	72.1	64.9	-1.8
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	77.5	80.2	74.3	86.2	83.8	89.7	88.6	77.5	79.1	72.1	64.9	-1.8
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	76.7	82.1	73.1	87.5	83.8	89.4	85	78.5	79.5	72.7	65.4	-1.6
Domestic demand	54.2	56.7	50.6	45.2	43.6	52.5	54.1	42.8	36.7	27.1	31.5	-5.3
Transportation Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	25.4	28.7	27.2	25.9	26.4	33.2	37	32.9	27.2	19	23.4	-0.8
Industrial Sector	17.6	16.2	12.2	9.5	8.2	9.2	10.3	3.5	3	2.8	3.6	-14.7
Oil Sector	11.2	11.8	11.2	9.8	9	10.1	6.8	6.4	6.6	5.4	4.5	-8.7
Export	-	0.3	-	-	-	-	-	-	-	-	-	NA
To other regions	22.5	25	22.5	42.4	40.2	36.9	30.9	35.7	42.7	45.5	33.8	4.2
Inventories variation	0.8	-1.8	1.2	-1.3	0	0.3	3.6	-1	-0.4	-0.6	-0.5	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.

TABLE C. 12
FUEL-OIL BALANCE 2006-2016, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	167.1	158.7	158.8	176.8	160.8	164.6	143.7	140	123.1	117.4	119.9	-3.3
Production	161.6	154.5	155.2	162.3	158.1	159.2	119.4	120.6	107.2	104.2	94.8	-5.2
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán*	66.6	63.7	62.9	67.2	64.6	65.4	33.4	19.5	14.9	20.7	7.5	-19.6
Salina Cruz	95	90.9	92.4	95.1	93.5	93.9	86.1	101.2	92.3	83.5	87.3	-0.8
Import	5.5	4.2	3.6	14.4	2.7	5.4	23.5	14.3	0.7	5.4	23.4	15.5
From other regions	-	-	-	-	-	-	0.8	5.1	15.3	7.7	1.8	NA
Destination	166.3	162.3	156.7	181.6	162.4	163.9	138.7	144.6	124.7	119.2	120.8	-3.1
Domestic demand	86.2	81.1	64.9	67.1	55.6	56.4	62.6	55.1	41.2	39.8	48.7	-5.6
Transportation Sector	0.4	0.4	0.2	0.3	0.2	0.3	0.1	0	0.1	0.1	0.3	-1.5
Electricity Sector	63	54.1	41.8	45.5	39.7	40.1	50.7	43	28.3	27.2	35.2	-5.7
Industrial Sector	6.4	10	6.4	5.9	2.6	1.8	0.5	0.1	0	0	2.1	-10.6
Oil Sector	16.4	16.5	16.5	15.4	13.1	14.1	11.4	11.9	12.8	12.4	11	-3.9
Export	22.5	21.4	50.1	91.9	78.6	64.4	48.7	77	81.4	75.6	66.3	11.4
To other regions	57.5	59.9	41.7	22.5	28.2	43.2	27.4	12.5	2.1	3.7	5.8	-20.5
Inventories variation	0.8	-3.6	2.1	-4.7	-1.6	0.7	5	-4.6	-1.6	-1.8	-0.8	NA

NA Not applicable.

* Includes transferences of topped from La Cangrejera to fuel oil.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.



TABLE C. 13
PETROLEUM COKE DOMESTIC BALANCE, 2006-2016
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	4,795.4	5,267.4	5,334.0	4,115.1	4,386.0	5,089.5	5,828.7	5,915.5	5,091.1	5,430.7	5,531.4	1.4
Production	1,632.5	1,689.1	1,880.5	1,962.5	1,511.0	1,628.0	2,578.7	2,992.1	2,705.1	2,658.3	2,149.2	2.8
Cadereyta	811.8	984.8	975.0	1,069.1	817.2	849.8	966.6	926.7	865.7	823.5	659.8	-2.1
Madero	820.7	704.3	905.5	893.3	693.8	772.9	766.9	945.5	698.9	923.4	641.0	-2.4
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	5.3	845.2	1,119.9	1,140.5	911.4	848.5	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	3,162.9	3,578.2	3,453.5	2,152.6	2,875.0	3,461.5	3,250.1	2,923.3	2,386.1	2,772.4	3,382.2	0.7
Destination	4,740.6	5,227.4	4,653.9	4,062.1	4,038.4	4,214.2	5,060.2	5,727.8	4,891.9	5,260.1	5,421.7	1.4
Domestic demand	4,623.1	5,183.9	4,603.9	3,968.6	3,989.8	4,212.2	4,358.5	5,026.0	4,827.7	5,260.1	5,421.3	1.6
Electricity Sector	1,024.2	1,018.1	982.2	976.8	1,204.7	1,167.4	1,209.0	1,232.7	1,228.0	1,204.6	1,069.0	0.4
Industrial Sector	3,598.9	4,165.8	3,621.7	2,991.8	2,785.1	3,044.8	3,149.6	3,793.3	3,599.7	4,055.5	4,352.3	1.9
Hydraulic cement	2,998.5	3,472.3	2,963.4	2,807.1	2,624.5	2,850.4	2,854.0	3,446.9	3,444.2	3,788.3	3,887.7	2.6
Basic-metals industry	189.5	191.3	189.1	109.6	60.8	67.0	77.8	77.3	28.0	52.5	58.0	-11.2
Chemical, rubber, And plastics	310.8	401.9	372.0	32.7	52.4	46.1	55.5	64.9	18.1	59.5	236.5	-2.7
Machinery and electric appliances	67.0	50.2	54.9	7.5	40.0	53.0	56.3	47.2	7.3	41.3	47.3	-3.4
Glass	14.8	4.2	0.4	0.2	0.2	1.1	0.2	0.2	-	0.2	0.3	-32.9
Rest of the industry	18.3	45.8	42.1	34.6	7.1	27.3	105.7	156.9	102.2	113.7	122.4	20.9
Export	117.5	43.5	50.0	93.5	48.6	2.0	701.7	701.7	64.2	0.0	0.3	-44.6
Inventories variation	54.8	40.0	680.2	52.9	347.6	875.3	768.5	187.7	199.2	170.6	109.8	7.2

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.

TABLE C. 14
PETROLEUM-COKE BALANCE 2006-2016, NORTHWEST REGION
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	383.8	397.8	264.8	215.5	165.9	210.4	263.4	392.8	290.8	306.8	334.6	-1.4
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	1	1.2	0.9	1	1.1	1.4	1.5	101.5	1.3	1.3	1.5	3.9
From other regions	382.8	396.5	263.8	214.5	164.7	209	261.9	291.4	289.6	305.5	333.1	-1.4
Destination	383.8	397.8	264.8	215.5	165.9	210.4	263.4	392.8	290.8	306.8	334.6	-1.4
Domestic demand	383.8	397.8	264.8	215.5	165.9	210.4	263.4	392.8	290.8	306.8	334.6	-1.4
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	383.8	397.8	264.8	215.5	165.9	210.4	263.4	392.8	290.8	306.8	334.6	-1.4
Hydraulic cement	382.8	396.5	263.8	214.5	164.7	209	261.9	291.4	289.6	305.5	333.1	-1.4
Basic-metals industry	-	-	-	-	-	-	-	-	-	-	-	NA
Chemical, rubber, and plastics	-	-	-	-	0.1	1.2	1.4	1.3	1.3	1.2	1.3	NA
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	-	-	-	-	0.1	0.1	0.1	0.1	-	0.2	0.2	NA
Rest of the industry	1	1.2	0.9	1	1	-	-	100	-	-	0	-41
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	0	0	0	0	0	0	0	0	0	0	0	-7.8

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.



TABLE C. 15
PETROLEUM-COKE BALANCE 2006-2016, NORTHEAST REGION
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	4319.2	4582.8	4555.7	3419.5	3279	3928.1	3678.2	4661.9	3948.8	4506.6	4673.1	0.8
Production	1632.5	1689.1	1880.5	1962.5	1511	1622.7	1733.5	1872.2	1564.6	1746.9	1300.7	-2.2
Cadereyta	811.8	984.8	975	1069.1	817.2	849.8	966.6	926.7	865.7	823.5	659.8	-2.1
Madero	820.7	704.3	905.5	893.3	693.8	772.9	766.9	945.5	698.9	923.4	641	-2.4
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	2686.7	2893.7	2675.2	1457.1	1768	2305.4	1944.8	2789.7	2384.2	2759.7	3372.4	2.3
From other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	4333.1	4627.1	4559.5	3446.7	3280.2	3158.1	3153.7	4551	3848.3	4376.6	4537.1	0.5
Domestic demand	935.9	1087.5	940.3	501.4	423.2	436.6	409.4	428.1	278.4	391.5	619.8	-4
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	935.9	1087.5	940.3	501.4	423.2	436.6	409.4	428.1	278.4	391.5	619.8	-4
Hydraulic cement	411.8	456	287	320.8	268.7	265.9	198.5	236.7	225.5	244.6	272.5	-4
Basic-metals industry	116.6	133.1	187.4	107.4	58.7	64.7	76.7	75.7	27.4	50.8	57	-6.9
Chemical, rubber, and plastics	310.6	401.8	372	32.7	52.4	44.8	54.1	63.6	16.8	49.4	235.2	-2.7
Machinery and electric appliances	67	50.2	54.9	7.5	40	53	56.3	47.2	7.3	41.3	47.3	-3.4
Glass	14.8	4.2	0	-	-	0.9	-	-	-	-	-	NA
Rest of the industry	15.3	42.3	39.1	32.9	3.3	7.3	23.8	4.9	1.5	5.5	7.8	-6.5
Export	117.2	43.5	49.8	93.5	48.1	1.4	0.1	0.1	8.5	0	0.3	-45.4
To other regions	3280	3496	3569.3	2851.9	2808.9	2720.1	2744.3	4122.8	3561.4	3985	3917	1.8
Inventories variation	-14	-44.2	-3.7	-27.2	-1.2	770	524.5	110.9	100.4	130.1	136	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.

TABLE C. 16
PETROLEUM-COKE BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	1830.2	2069.3	2429.3	1839.3	1936.8	1908.6	1988.1	2155	2143.2	2251.1	2120	1.5
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	95	55.1	0	0.1	1.7	0.6	0.2	0.4	0.2	0.3	6.6	-23.4
From other regions	1735.2	2014.1	2429.3	1839.2	1935	1908	1987.9	2154.6	2143.1	2250.8	2113.4	2
Destination	1761.5	1985.1	1745.4	1759.1	1936.8	1908.6	1988.1	2155	2143.2	2251.1	2120	1.9
Domestic demand	1761.3	1985.1	1745.4	1759.1	1936.8	1908.6	1988.1	2155	2143.2	2251.1	2119.9	1.9
Electricity Sector	1024.2	1018.1	982.2	976.8	1204.7	1167.4	1209	1232.7	1228	1204.6	1069	0.4
Industrial Sector	737.1	967	763.3	782.3	732	741.2	779.1	922.3	915.3	1046.4	1050.9	3.6
Hydraulic cement	667.7	911.9	763.2	782.3	730.3	740.6	778.9	921.9	915.1	1046	1044.3	4.6
Basic-metals industry	69.4	55.1	-	0.1	0.5	0.6	0.2	0.4	0.2	0.2	0.3	-42
Chemical, rubber, and plastics	-	-	-	-	-	-	-	-	-	-	-	NA
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	-	-	-	-	-	-	-	-	-	-	-	NA
Rest of the industry	0	0	0	0	1.2	0	-	0.1	-	0.3	6.3	126
Export	0.1	0	-	0	-	0	0	0	-	-	0	-16
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	68.7	84.2	683.9	80.2	0	0	0	0	0	0	0	-96.9

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.

TABLE C. 17 PETROLEUM-COKE BALANCE 2006-2016, CENTRAL REGION
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	1302.6	1414	1349.8	1223.6	1509	1359.9	1358.9	1547.9	1568.5	1656.6	1635.3	2.3
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	377.2	625.7	776.4	693.3	1103.2	1153.6	1303.2	-	-	-	-	NA
From other regions	925.4	788.3	573.5	530.3	405.7	206.3	55.8	1547.9	1568.5	1656.6	1635.3	5.9
Destination	1302.6	1414	1349.8	1223.6	1160.2	1259.9	1258.9	1557.4	1598.9	1707.2	1766.7	3.1
Domestic demand	1302.6	1414	1349.7	1204.1	1159.7	1256.6	1252	1557.4	1598.9	1707.2	1766.7	3.1
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	1302.6	1414	1349.7	1204.1	1159.7	1256.6	1252	1557.4	1598.9	1707.2	1766.7	3.1
Hydraulic cement	1299.6	1411	1346.6	1202.2	1157.4	1235.3	1169.4	1505	1498	1590	1658.3	2.5
Basic-metals industry	0.7	0.7	0.7	1	0.6	1.2	0.6	0.5	0.2	0.2	-	-100
Chemical, rubber, and plastics	0.2	0.1	-	-	0	-	-	0	-	8.9	-	-100
Machinery and electric appliances	-	-	-	-	0	0	-	-	-	-	-	NA
Glass	-	-	0.3	0.2	0.1	0.1	0.1	0.1	-	0.1	0.1	na
Rest of the industry	2	2.3	2	0.7	1.6	20	81.9	51.8	100.7	108	108.3	48.7
Export	0	-	0.2	-	0.5	0.5	0.4	-	-	-	-	NA
To other regions	-	-	-	19.5	-	2.8	6.5	-	-	-	-	NA
Inventories variation	0	0	0	0	348.8	100	100	-9.5	-30.4	-50.7	-131.4	NA

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.

TABLE C. 18
PETROLEUM-COKE BALANCE 2006-2016, SOUTH-SOUTHEAST REGION
(MTA)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	239.6	299.4	303.7	288.5	304.3	405.4	1,290.80	1,375.90	1,140.90	993	895.4	14.1
Production	-	-	-	-	-	5.3	845.2	1,119.90	1,140.50	911.4	848.5	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	5.3	845.2	1,119.90	1,140.50	911.4	848.5	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	3	2.5	1	1.2	0.9	0.6	0.4	31.8	0.4	11.1	1.8	-5.2
From other regions	236.6	296.9	302.7	287.3	303.4	399.5	445.2	224.2	-	70.5	45.1	-15.3
Destination	239.6	299.4	303.7	288.5	304.3	400.1	1,146.80	1,289.60	1,011.70	901.8	790.2	12.7
Domestic demand	239.5	299.4	303.7	288.5	304.3	400.1	445.6	492.7	516.3	603.5	580.3	9.3
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	239.5	299.4	303.7	288.5	304.3	400.1	445.6	492.7	516.3	603.5	580.3	9.3
Hydraulic cement	236.6	296.9	302.7	287.3	303.4	399.5	445.2	492	516.1	602.2	579.5	9.4
Basic-metals industry	2.8	2.4	1	1.2	0.9	0.6	0.4	0.7	0.2	1.3	0.8	-12.2
Chemical, rubber, and plastics	0	0	-	-	-	-	-	0	0.1	0.1	0	4.5
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	-	-	-	-	-	-	-	-	-	-	-	NA
Rest of the industry	-	-	0	0	0	0	0	0	0	0	0	NA
Export	0.2	-	-	-	-	-	701.2	701.6	55.7	0	0	-20.4
To other regions	-	-	-	-	-	-	-	95.3	439.7	298.3	209.9	NA
Inventories variation	0	0	0	0	0	5.3	144	86.3	129.2	91.2	105.2	3910.2

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.



TABLE C. 19
DIESEL DOMESTIC BALANCE, 2006-2016
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	369.4	386.8	411.5	384.7	397.5	409.5	432.5	420.5	419.5	420	404.3	0.9
Production	328.1	334	343.5	337	289.5	273.8	299.6	313.4	286.6	274.7	216.2	-4.1
Cadereyta	75.2	83.8	81.8	86.3	66.2	63.3	71.8	69	61.1	59.3	43.8	-5.3
Madero	45.9	43.1	48.1	43.4	34.6	29.1	31.1	33.5	30.7	36	22.7	-6.8
Tula	56.7	62.2	59.8	60.1	49.7	48.2	50.1	44.5	42.5	46.2	34.2	-4.9
Salamanca	44.5	42.4	51	45	41.7	37.7	39.2	44.4	38.7	33.6	33.8	-2.7
Minatitlán	42.2	44.4	39.7	37.9	37.7	34.1	52.1	63	57.2	51.2	36.1	-1.6
Salina Cruz	63.7	58.2	63.1	64.4	59.6	61.2	55.3	59	56.4	48.4	45.6	-3.3
Import*	41.3	52.7	68	47.7	108	135.7	132.8	107.1	132.9	145.3	188.1	16.4
Destination	362.4	384.3	406	383.7	390.6	401.2	420.3	413.9	410.2	404.6	397.7	0.9
Domestic demand	359.8	375.5	399.5	378.9	390.2	401.2	420.3	413.9	410.2	404.6	397.7	1
Industrial Sector	24.4	24.8	25.5	23.1	24.5	27.4	31.4	30.9	29.4	29.7	26.3	0.8
Oil Sector	15	17.1	17.6	19.9	19.1	17.6	19.8	22.2	20.8	19.8	10.3	-3.7
Transportation Sector	312.7	329.1	349.7	327.3	338.6	346.8	355	346.9	350.4	345.8	349.9	1.1
Motor-Carrier	285.2	301.9	320.1	303.3	312.5	317.2	326.7	320.5	323.6	317.2	322.1	1.2
Railway Transportation	12.7	12.6	11.9	11.2	12.6	13.5	12.7	12.7	12.8	13.4	13.4	0.5
Maritime Transportation	14.8	14.6	17.8	12.8	13.5	16.1	15.6	13.7	14	15.2	14.5	-0.2
Electricity Sector	7.8	4.5	6.8	8.6	8	9.5	14.1	13.9	9.5	9.3	11.2	3.7
Export	2.5	8.8	6.4	4.8	0.4	0	-	-	-	-	-	NA
Inventories variation	7	2.5	5.6	1	6.9	8.3	12.1	6.6	9.3	15.4	6.5	-0.7

NA Not applicable.

¹ Includes maquila.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 20
DIESEL DOMESTIC BALANCE 2006-2016, NORTHWEST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	51.9	53.3	56.9	51	53.3	59.1	62.3	60	61.2	62	64.8	2.2
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	6.3	19.5	23.3	17.1	20.5	23.8	28	22.6	27.7	39.7	51.3	23.4
From other regions	45.7	33.7	33.6	33.9	32.8	35.3	34.3	37.5	33.5	22.3	13.5	-11.5
Destination	51.4	53	56.5	50.9	52.6	58.3	61	59.2	60.3	60.1	64.1	2.2
Domestic demand	51.4	53	56.5	50.9	52.6	58.3	61	59.2	60.3	60.1	63.4	2.1
Industrial Sector	3.8	4.1	3.9	3.2	4	4.6	5.8	6	6	6.6	7	6.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Transportation Sector	44.6	46.9	50.3	44.9	45.8	48.9	50.6	50	50.5	50.8	53.3	1.8
Motor-Carrier	36.7	39	41.2	37.7	38.2	40.7	43.2	42.8	43.1	42.5	44.3	1.9
Railway Transportation	1.2	1.2	1.4	1.1	1.3	1.5	1.4	1.6	1.6	1.7	2.3	6.8
Maritime Transportation	6.7	6.8	7.7	6.2	6.3	6.7	6	5.6	5.9	6.6	6.6	-0.1
Electricity Sector	3	1.9	2.3	2.8	2.8	4.7	4.6	3.2	3.7	2.8	3.1	0.3
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	0.7	NA
Inventories variation	0.5	0.3	0.5	0.1	0.6	0.9	1.3	0.8	0.9	1.9	0.7	3.2

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 21
DIESEL BALANCE 2006-2016, NORTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	126.5	140	151.5	140.7	131.7	127.6	131.8	135.6	119.4	125.5	109.6	-1.4
Production	121.1	126.9	129.9	129.7	100.8	92.4	102.9	102.5	91.8	95.3	66.5	-5.8
Cadereyta	75.2	83.8	81.8	86.3	66.2	63.3	71.8	69	61.1	59.3	43.8	-5.3
Madero	45.9	43.1	48.1	43.4	34.6	29.1	31.1	33.5	30.7	36	22.7	-6.8
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	5.4	13.1	21.7	11	30.9	35.2	28.8	33	27.6	30.2	43.1	23.1
From other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	124.6	139.3	150	140.5	129.8	125.4	128.6	133.8	117	121.4	107.9	-1.4
Domestic demand	80.5	85.6	93.3	85.9	89.5	92.9	95.8	93.9	94.4	92.3	88.3	0.9
Industrial Sector	6.5	6.2	6.4	6.7	7.2	8.4	10	10.2	9.6	9.5	8	2.2
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Transportation Sector	73.5	78.9	86.5	78.6	81.7	83.6	84.4	81.6	83.2	81.8	79	0.7
Motor-Carrier	68.6	73.6	80.4	73.7	76.2	76.9	78.5	76.7	78.2	76.2	74.1	0.8
Railway Transportation	3.3	3.7	3.5	3.3	3.9	4.1	3.9	3.5	3.8	4.1	3.6	0.8
Maritime Transportation	1.5	1.5	2.6	1.5	1.7	2.6	1.9	1.4	1.2	1.5	1.4	-1
Electricity Sector	0.5	0.5	0.5	0.7	0.6	0.9	1.4	2	1.5	1	1.2	8.5
Export	2.1	7.6	6.3	2.4	0.4	-	-	-	-	-	-	NA
To other regions	42.1	46.1	50.3	52.2	39.9	32.5	32.8	40	22.6	29.1	19.6	-7.3
Inventories variation	1.9	0.7	1.6	0.1	1.9	2.2	3.1	1.7	2.4	4	1.7	-0.8

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 22
DIESEL BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	83.2	85.6	89.4	86.1	92.1	94.8	98.4	94.4	93	91.6	93.6	1.2
Production	44.5	42.4	51	45	41.7	37.7	39.2	44.4	38.7	33.6	33.8	-2.7
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	44.5	42.4	51	45	41.7	37.7	39.2	44.4	38.7	33.6	33.8	-2.7
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	0.3	1.5	1.8	1	2.5	3.7	7.1	3.2	5.7	11.8	12.7	43.9
From other regions	38.3	41.6	36.7	40.1	48	53.3	52.1	46.9	48.5	46.2	47.1	2.1
Destination	82	85.2	88.6	85.8	91	93.4	96.4	93.4	91.6	89.2	92.5	1.2
Domestic demand	82	85.2	88.6	85.8	91	93.4	96.4	93.4	91.6	89.2	92.5	1.2
Industrial Sector	4.8	5.1	5.5	4.7	5.2	5.8	6.2	5.8	5.7	5.1	4.6	-0.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Transportation Sector	76.7	79.5	82.6	80.6	85.4	87.1	87.5	85.8	85.5	83.7	87.4	1.3
Motor-Carrier	69.9	73.2	76	75	79.1	80.3	81.5	80.8	81.1	79.8	83.3	1.8
Railway Transportation	5.6	5	4.8	4.3	4.8	4.9	4.3	4.3	3.6	3.3	3.4	-4.7
Maritime Transportation	1.2	1.3	1.8	1.3	1.5	2	1.6	0.8	0.8	0.5	0.7	-6.2
Electricity Sector	0.5	0.6	0.6	0.5	0.4	0.5	2.6	1.8	0.4	0.4	0.5	0.3
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	1.2	0.4	0.8	0.2	1.1	1.3	2	1	1.4	2.4	1.1	-0.7

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 23
DIESEL BALANCE 2006-2016, CENTRAL REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	71.7	74.1	76.8	72.9	75.4	75.7	77.3	74.3	78.1	79.2	75.5	0.5
Production	56.7	62.2	59.8	60.1	49.7	48.2	50.1	44.5	42.5	46.2	34.2	-4.9
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	56.7	62.2	59.8	60.1	49.7	48.2	50.1	44.5	42.5	46.2	34.2	-4.9
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	15	11.9	17	12.8	25.7	27.5	27.3	29.8	35.6	33.1	41.3	10.6
Destination	70.4	73.6	75.8	72.8	74.4	74.5	75.6	73.4	76.8	77	74.5	0.6
Domestic demand	70.4	73.6	75.8	72.8	74.4	74.5	75.6	73.4	76.8	77	74.5	0.6
Industrial Sector	6.2	6.2	6.2	5.3	4.7	4.9	5.2	4.6	4.2	4.3	3	-7.2
Oil Sector	0.4	0.2	0.2	0.3	0.5	0.3	0.5	0.4	0.7	1	0.5	0.8
Transportation Sector	63.4	66.9	69	66.7	68.7	69	69.7	68.3	71.7	71.6	71	1.1
Motor-Carrier	62.6	65.9	68.2	65.9	67.8	67.9	68.5	67	70	69.9	69.1	1
Railway Transportation	0.9	0.9	0.8	0.8	0.9	1.1	1.2	1.3	1.7	1.8	1.9	8
Maritime Transportation	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	0.3	0.4	0.5	0.4	0.5	0.4	0.3	0.1	0.2	0.1	0.1	-16
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	1.3	0.5	0.9	0.1	1.1	1.2	1.7	0.9	1.4	2.3	0.9	-2.8

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 24
DIESEL BALANCE 2006-2016, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	135.1	121.1	124.1	120.8	151.5	168.4	176.3	170.4	185.4	163.3	162.7	1.9
Production	105.8	102.6	102.8	102.2	97.3	95.4	107.4	122.1	113.6	99.6	81.7	-2.6
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	42.2	44.4	39.7	37.9	37.7	34.1	52.1	63	57.2	51.2	36.1	-1.6
Salina Cruz	63.7	58.2	63.1	64.4	59.6	61.2	55.3	59	56.4	48.4	45.6	-3.3
Import*	29.3	18.5	21.2	18.6	54.2	73	68.9	48.3	71.9	63.7	81	10.7
From other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	133	120.5	122.3	120.4	149.3	165.7	172.4	168.2	182.2	158.5	160.7	1.9
Domestic demand	75.6	78.2	85.3	83.5	82.7	82.1	91.5	94.1	87.2	86	79.1	0.5
Industrial Sector	3.1	3.3	3.5	3.2	3.3	3.7	4.2	4.2	3.9	4.3	3.8	2.1
Oil Sector	14.6	17	17.3	19.6	18.7	17.3	19.3	21.8	20.1	18.9	9.8	-3.9
Transportation Sector	54.5	56.9	61.4	56.5	57	58.1	62.9	61.2	59.5	57.8	59.2	0.8
Motor-Carrier	47.4	50.1	54.3	51	51.2	51.4	54.9	53.2	51.2	48.8	51.3	0.8
Railway Transportation	1.7	1.7	1.4	1.7	1.7	1.8	1.9	2	2.2	2.5	2.1	2
Maritime Transportation	5.4	5	5.7	3.8	4.2	4.9	6.1	6	6.2	6.5	5.8	0.8
Electricity Sector	3.4	1.1	3	4.2	3.7	2.9	5.2	6.8	3.7	5.1	6.3	6.3
Export	0.5	1.2	0.1	2.4	-	-	-	-	-	-	-	NA
To other regions	56.9	41.1	37	34.5	66.6	83.7	80.8	74.2	95	72.5	81.6	3.7
Inventories variation	2.2	0.6	1.7	0.4	2.2	2.7	3.9	2.2	3.2	4.8	2	-0.6

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 25
GASOLINES DOMESTIC BALANCE, 2006-2016
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	729.8	765.8	791.2	801.2	803	805.6	812.6	795.6	791.6	807.2	825.8	1.2
Production	456.1	456	451.2	472.1	424.8	400.9	418.1	437.3	421.6	381.4	325.3	-3.3
Cadereyta	81.9	82.2	82.6	85.2	68.6	65	72.8	75.7	73.4	63.1	45.3	-5.8
Madero	60.9	61.5	61.8	61	51.9	44.3	50.6	51.4	40.1	50.7	32	-6.2
Tula	94.4	100.5	90.8	105.9	91.4	94.1	89.2	80.3	86.5	80.4	67.3	-3.3
Salamanca	66.3	63.4	62.8	62.4	61	54.6	60.8	64.6	56.3	44.1	56.4	-1.6
Minatitlán	55.6	53.8	57.6	62.9	60.9	51.1	58.9	68.7	74.5	63.5	52.7	-0.5
Salina Cruz	96.9	94.5	95.5	94.8	90.9	91.9	85.8	96.6	90.7	79.6	71.5	-3
Import*	273.8	309.8	340	329.1	378.3	404.7	394.5	358.3	370	425.8	500.6	6.2
Destination	719.1	761.3	792.8	794	802.3	800	804.4	788.2	778.4	794.6	823.9	1.4
Domestic demand	718.9	761	792.6	792.6	802.3	800	804.4	788.2	778.4	794.6	823.9	1.4
Transportation Sector	718.3	760.3	792	791.9	801.6	799.1	803.2	786.9	776.3	792.9	823	1.4
Oil Sector	0.7	0.7	0.6	0.7	0.7	0.9	1.2	1.3	2.1	1.8	1	3.6
Export	0.2	0.4	0.2	1.4	-	-	-	-	-	-	0	-37.6
Inventories variation	10.7	4.4	-1.6	7.2	0.7	5.6	8.2	7.4	13.2	12.5	1.9	-15.8

NA Not applicable.

¹ Includes maquila.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 26
GASOLINES BALANCE 2006-2016, NORTHWEST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	93.2	98.9	103.7	100.8	100.9	102.1	103.5	99.4	96.4	98.9	106	1.3
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	17.8	34.1	53.7	38.4	34.9	39.8	41.5	25.7	25.5	45.9	62.7	13.4
From other regions	75.4	64.8	50	62.4	66	62.3	62	73.8	70.9	53	43.3	-5.4
Destination	92.2	98.3	103.9	100	100.7	101.6	102.6	98.8	95.3	97.8	106	1.4
Domestic demand	92.2	98.3	103.9	100	100.7	101.6	102.6	98.8	95.3	97.8	106	1.4
Transportation Sector	92.2	98.3	103.9	100	100.7	101.6	102.6	98.8	95.3	97.8	106	1.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	1	0.6	-0.2	0.7	0.2	0.5	0.8	0.6	1.1	1.2	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 27
GASOLINES BALANCE 2006-2016, NORTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	182	192.1	205.7	215.3	204.1	183.8	191.7	193.3	178.1	193.3	180.9	-0.1
Production	142.8	143.7	144.4	146.2	120.5	109.3	123.3	127.1	113.5	113.8	77.3	-6
Cadereyta	81.9	82.2	82.6	85.2	68.6	65	72.8	75.7	73.4	63.1	45.3	-5.8
Madero	60.9	61.5	61.8	61	51.9	44.3	50.6	51.4	40.1	50.7	32	-6.2
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	36.7	46.2	58.5	65.7	80	72.6	68.1	64.1	62.7	77.6	101.2	10.7
From other regions	2.46	2.2	2.79	3.33	3.61	1.98	0.29	2.08	1.97	1.92	2.36	-0.4
Destination	180.3	191.7	206.8	214.3	204.9	183.3	190.5	192.6	176.1	191.1	181.2	0
Domestic demand	139.4	147.3	153.6	151.4	148.1	142.2	141.7	141.3	142.1	151	157.4	1.2
Transportation Sector	139.4	147.3	153.6	151.4	148.1	142.2	141.7	141.3	142.1	151	157.4	1.2
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	1.07	-	-	-	-	-	-	0	NA
To other regions	40.9	44.4	53.2	61.8	56.8	41	48.8	51.3	34	40.1	23.9	-5.2
Inventories variation	1.7	0.4	-1.1	0.9	-0.8	0.5	1.2	0.7	2.1	2.2	-0.3	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from PEMEX and SENER.



TABLE C. 28
GASOLINES BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	167.4	176.6	180.7	185.2	187.5	187.4	188.7	182.4	178.7	178.9	188.5	1.2
Production	66.3	63.4	62.8	62.4	61	54.6	60.8	64.6	56.3	44.1	56.4	-1.6
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	66.3	63.4	62.8	62.4	61	54.6	60.8	64.6	56.3	44.1	56.4	-1.6
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	2.1	7.8	12	10.4	14.1	9.9	7.4	2.3	7.8	16.2	23.1	26.9
From other regions	99	105.3	106	112.3	112.4	123	120.5	115.4	114.6	118.5	109	1
Destination	165.8	175.8	181	183.9	187.3	186.6	187.5	181.5	176.7	177.1	188.2	1.3
Domestic demand	165.8	175.8	181	183.9	187.3	186.6	187.5	181.5	176.7	177.1	188.2	1.3
Transportation Sector	165.8	175.8	181	183.9	187.3	186.6	187.5	181.5	176.7	177.1	188.2	1.3
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	0	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	1.6	0.8	-0.3	1.2	0.2	0.9	1.2	0.8	2	1.9	0.3	-16.2

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 29
GASOLINES BALANCE 2006-2016, CENTRAL REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	212.4	219.3	224.4	225.2	229.5	231.9	232	228.7	229.4	233.9	230.4	0.8
Production	94.4	100.5	90.8	105.9	91.4	94.1	89.2	80.3	86.5	80.4	67.3	-3.3
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	94.4	100.5	90.8	105.9	91.4	94.1	89.2	80.3	86.5	80.4	67.3	-3.3
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	118	118.8	133.5	119.3	138	137.8	142.8	148.4	142.8	153.5	163.1	3.3
Destination	210.4	218.6	224.8	223.9	229.3	230.9	230.9	227.4	226.7	231.4	229.8	0.9
Domestic demand	210.4	218.6	224.8	223.9	229.3	230.9	230.9	227.4	226.7	231.4	229.8	0.9
Transportation Sector	210.4	218.6	224.8	223.9	229.3	230.6	230.2	226.7	225.2	230.2	229.1	0.9
Oil Sector	-	-	-	-	-	0.26	0.7	0.7	1.5	1.2	0.6	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	2.1	0.7	-0.5	1.3	0.1	1	1.1	1.2	2.6	2.5	0.7	-10.4

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from PEMEX and SENER.



TABLE C. 30
GASOLINES BALANCE 2006-2016, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	369.6	370	369	372.2	401	425.5	422.3	431.5	439.3	429.1	437.8	1.7
Production	152.5	148.4	153.1	157.6	151.9	143	144.7	165.3	165.2	143.1	124.3	-2
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	55.6	53.8	57.6	62.9	60.9	51.1	58.9	68.7	74.5	63.5	52.7	-0.5
Salina Cruz	96.9	94.5	95.5	94.8	90.9	91.9	85.8	96.6	90.7	79.6	71.5	-3
Import*	217.1	221.6	215.9	214.6	249.1	282.5	277.6	266.2	274	286	313.5	3.7
From other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	365.3	368	368.6	369.2	400.1	422.8	418.4	427.4	433.9	424.3	436.5	1.8
Domestic demand	111.1	120.9	129.3	133.3	136.8	138.8	141.7	139	137.6	137.4	142.6	2.5
Transportation Sector	110.5	120.3	128.6	132.6	136.2	138.1	141.2	138.5	137	136.8	142.2	2.6
Oil Sector	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.3	-6.8
Export	0.2	0.4	0.2	0.3	-	-	-	-	-	-	-	NA
To other regions	254	246.7	239.1	235.5	263.2	284.1	276.7	288.4	296.3	286.9	293.9	1.5
Inventories variation	4.4	2	0.4	3	1	2.6	3.9	4	5.3	4.8	1.3	-11.7

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 31
DOMESTIC JET-FUEL BALANCE¹, 2006-2016
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	64.9	66.3	64	57.1	51.9	56.3	59.7	64	65.1	70.8	76.2	1.6
Production	64.8	66.3	64	57.1	51.9	56.3	56.6	60.8	53.4	47.8	42.8	-4.1
Cadereyta	4.8	9.8	6.8	5.2	2.9	3.6	4.7	3.5	3.6	3.3	2	-8.4
Madero	7.2	4.9	6.8	6	5.5	6	5.9	7.5	4.9	1.3	0.3	-26.9
Tula	22.9	24.2	22.7	22.2	22.1	23	23.9	22.4	20.7	18.9	18	-2.4
Salamanca	13.3	10.5	10.5	8.7	8.1	7.5	8.3	10.6	9.2	9.7	9.1	-3.7
Minatitlán	1.2	0.3	0.2	0.1	-	0	2.1	0.1	-	-	-	NA
Salina Cruz	15.3	16.6	17.1	14.9	13.3	16.1	11.8	16.7	15	14.7	13.4	-1.3
Import*	0.1	-	-	-	0.1	-	3.1	3.23	11.7	23	33.4	73.3
Destination	67.5	71.3	70.7	59.2	57.1	57.9	59.3	63.4	66.5	70.8	76.2	1.2
Domestic demand	61.2	67.9	65	55	55.8	56.1	59.3	62.2	66.5	70.8	76.2	2.2
Transportation Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	6.3	3.4	5.7	4.2	1.3	1.8	-	1.2	-	-	0	-86.5
Inventories variation	-2.5	-5	-6.7	-2.1	-5.2	-1.6	0.4	0.6	-1.4	0	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.

TABLE C. 32
JET-FUEL BALANCE 2006-2016, NORTHWEST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	7.3	7.3	6	5.9	6.2	6.4	6.5	7.1	7.3	8.3	9.5	2.6
Production	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	2.6	NA
From other regions	7.3	7.3	6	5.9	6.2	6.4	6.5	7.1	7.3	8.3	6.9	-0.6
Destination	7.5	7.6	6.3	6.1	6.6	6.4	6.5	7.1	7.3	8.3	9.5	2.4
Domestic demand	7.5	7.6	6.3	6.1	6.6	6.4	6.5	7.1	7.3	8.3	9.5	2.4
Transportation Sector	7.5	7.6	6.3	6.1	6.6	6.4	6.5	7.1	7.3	8.3	9.5	2.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-0.1	-0.3	-0.3	-0.1	-0.3	-0.1	0	0	-0.1	0	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.



TABLE C. 33
JET-FUEL BALANCE 2006-2016, NORTHEAST REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	12.1	14.7	13.6	11.2	8.3	9.6	10.7	11.3	9	7.5	8	-4
Production	12.1	14.7	13.6	11.2	8.3	9.6	10.6	11	8.5	4.7	2.3	-15.2
Cadereyta	4.8	9.8	6.8	5.2	2.9	3.6	4.7	3.5	3.6	3.3	2	-8.4
Madero	7.2	4.9	6.8	6	5.5	6	5.9	7.5	4.9	1.3	0.3	-26.9
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	0.1	0.3	0.4	2.4	5.2	NA
From other regions	-	-	-	-	-	-	-	-	0	0.4	0.5	NA
Destination	12.4	15.6	14.6	11.5	8.8	9.8	10.7	11.2	9.1	7.4	7.9	-4.4
Domestic demand	4.7	9.5	6.7	5.2	4.4	5.2	6.2	5.2	5.9	6.9	7.6	5
Transportation Sector	4.7	9.5	6.7	5.2	4.4	5.2	6.2	5.2	5.9	6.9	7.6	5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	0.4	0.4	0.6	0.2	-	-	-	-	-	-	-	NA
To other regions	7.4	5.7	7.3	6.1	4.4	4.5	4.5	6	3.2	0.6	0.4	-26.2
Inventories variation	-0.3	-0.9	-1	-0.3	-0.5	-0.2	0.1	0.1	-0.1	0	0.1	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.

TABLE C. 34
JET-FUEL BALANCE 2006-2016, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	13.5	10.7	10.5	8.9	8.1	7.7	8.6	11.1	9.6	10.1	9.5	-3.4
Production	13.3	10.5	10.5	8.7	8.1	7.5	8.3	10.6	9.2	9.7	9.1	-3.7
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	13.3	10.5	10.5	8.7	8.1	7.5	8.3	10.6	9.2	9.7	9.1	-3.7
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	0.3	0.2	0	0.2	0	0.2	0.4	0.5	0.4	0.4	0.5	6
Destination	13.9	11.5	11.6	9.2	8.9	7.9	8.6	11	9.8	10.1	9.6	-3.7
Domestic demand	13.1	10.6	10.4	8.6	8.2	7.4	8.2	10.7	9.4	9.7	9.2	-3.5
Transportation Sector	13.1	10.6	10.4	8.6	8.2	7.4	8.2	10.7	9.4	9.7	9.2	-3.5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	0.9	0.8	1.2	0.6	0.8	0.5	0.4	0.3	0.5	0.4	0.4	-7
Inventories variation	-0.4	-0.8	-1.1	-0.3	-0.8	-0.2	0	0	-0.2	0	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.



TABLE C. 35
JET-FUEL BALANCE 2006-2016, CENTRAL REGION
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	23.4	24.2	22.9	22.2	22.6	23.6	24.7	23.4	21.5	19.2	18.4	-2.4
Production	22.9	24.2	22.7	22.2	22.1	23	23.9	22.4	20.7	18.9	18	-2.4
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	22.9	24.2	22.7	22.2	22.1	23	23.9	22.4	20.7	18.9	18	-2.4
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	0	NA
From other regions	0.5	-	0.3	0	0.4	0.6	0.8	1	0.8	0.3	0.5	-0.2
Destination	24.2	25.9	25.2	23.1	24.8	24.2	24.5	23.2	22.1	19.2	18.4	-2.7
Domestic demand	22.5	23.5	22.5	21.6	22.3	23	23.5	22.2	21.3	18.3	17.6	-2.4
Transportation Sector	22.5	23.5	22.5	21.6	22.3	23	23.5	22.2	21.3	18.3	17.6	-2.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	0	NA
To other regions	1.8	2.4	2.8	1.5	2.4	1.3	1	1	0.8	0.9	0.8	-7.2
Inventories variation	-0.8	-1.7	-2.3	-0.8	-2.2	-0.6	0.2	0.2	-0.6	0	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.

TABLE C. 36
JET-FUEL BALANCE 2006-2016, SOUTH-SOUTHEAST REGION¹
(MBD)

Concept	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Origin	19.3	18.8	22.2	17.6	15.4	16.7	17.3	20.6	26.3	35.2	39	7.3
Production	16.5	16.9	17.2	15	13.3	16.1	13.9	16.8	15	14.7	13.4	-2.1
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	1.2	0.3	0.2	0.1	-	0	2.1	0.1	-	-	-	NA
Salina Cruz	15.3	16.6	17.1	14.9	13.3	16.1	11.8	16.7	15	14.7	13.4	-1.3
Import*	0.1	-	-	-	-	-	2.9	3	11.3	20.5	25.6	68.8
From other regions	2.6	1.9	5	2.6	2.1	0.6	0.5	0.9	-	-	-	NA
Destination	20.1	20.1	24.2	18.1	16.8	17.2	17.2	20.4	26.7	35.2	39.1	6.9
Domestic demand	13.5	16.7	19.1	13.5	14.4	14.1	14.9	17	22.6	27.6	32.4	9.1
Transportation Sector	13.5	16.7	19.1	13.5	14.4	14.1	14.9	17	22.6	27.6	32.4	9.1
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	NA
Export	5.9	3	5.2	4	1.3	1.8	-	1.2	-	-	-	NA
To other regions	0.7	0.5	-	0.6	1.1	1.3	2.4	2.2	4	7.6	6.7	25.3
Inventories variation	-0.8	-1.4	-2	-0.5	-1.4	-0.5	0.1	0.2	-0.4	0	0	NA

NA Not applicable.

¹ Includes maquila for the historical period.

Source: Elaborated by IMP, with information from ASA, DGAC, PEMEX and SENER.



TABLE C. 37
FUEL-OIL STATE DEMAND 2006-2016
(MBD)

State	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Aguascalientes	-	-	-	-	-	-	-	-	-	-	-	NA
Baja California	2	1.1	0.7	0.6	0.5	0.3	0.1	0.1	-	0	-	NA
Baja California Sur	12.8	18.3	15.6	19.8	16.5	10	10.6	15.9	7.1	3.7	8.9	-3.6
Campeche	6.3	5.8	6.3	5.1	5.1	5.4	5	4.7	5.2	4.4	2.9	-7.5
Coahuila	0.3	0.8	0.2	0.3	0.1	0.4	0.5	0.1	0.9	0	0	-32.2
Colima	12	17.5	28.9	20.3	9.5	16.6	14.9	23.3	5.9	7.3	2.1	-15.8
Chiapas	0	0	0	0	-	-	-	-	-	-	-	NA
Chihuahua	10.7	9.7	8.2	8.6	6.7	6.1	6.5	6.8	3.7	2.1	4	-9.4
Ciudad de México	0	-	-	-	-	-	-	0	-	-	0	-50.2
Durango	7.9	7.4	5.9	6.2	5.3	4.2	0.9	3.3	1.6	3	4.6	-5.3
Guanajuato	27.7	21.6	19.7	13	14.6	11	7.3	9.7	6.6	9	10.4	-9.4
Guerrero	-	-	3.7	4.5	-	-	-	-	-	-	-	NA
Hidalgo	53.9	56.4	50.4	44.9	43.4	52.4	54	42.8	36.7	27.1	31.5	-5.2
Jalisco	1.2	0.3	0.2	0.3	0.2	0.1	0.3	0.5	0.1	0.3	0.1	-21.6
México	0	0.1	0	0.1	0	0	-	0	-	-	-	NA
Michoacán	2	2.3	2.2	2.2	1.6	1.8	1.3	1.8	0.8	0.7	0.2	-19.3
Morelos	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0	0	-19.4
Nayarit	0.1	0	0	0	-	-	-	-	-	-	-	NA
Nuevo León	7.9	4.5	4.4	4.4	2.7	2.3	3.5	4.9	2.5	2.6	1.8	-14
Oaxaca	16.5	16.1	14.5	12.7	11.7	11.7	10.2	11.2	12.2	11.6	10.4	-4.5
Puebla	0	0	0	0	0	0	0	0	0	-	0	-9.4
Querétaro	0.6	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	-11.1
Quintana Roo	0.1	0.1	0.1	0.2	0	0.1	0.1	0.1	-	-	-	NA
San Luis Potosí	10.3	13.7	12.9	13.2	14.3	14.4	15.1	11.1	5.4	8.1	10.1	-0.2
Sinaloa	25.2	26.9	21.5	21.3	22.2	28.8	27.2	21.4	18.3	22.1	12	-7.2
Sonora	27.5	23.7	14.4	14.9	16.1	23.1	23	11.7	14	3.3	6.1	-14
Tabasco	0.1	0.1	0	0	0.1	0.1	0	0	0	0	0	-22.6
Tamaulipas	12.1	7	4.6	4	3.3	3	10.3	6.5	1.1	4.7	6.9	-5.4
Tlaxcala	-	-	-	-	-	-	-	-	-	-	-	NA
Veracruz	58.8	56.5	39.7	43.3	37.8	36.6	45.5	37.5	21.7	22	31.1	-6.2
Yucatán	4.4	2.5	0.6	1.2	0.8	2.4	1.9	1.6	2.1	1.8	4.3	-0.3
Zacateas	0.5	0.6	0.4	0.6	0.2	0.1	0	0.1	0	-	-	NA
Total	301.3	293.8	255.8	242.2	213.4	231	238.4	215.2	146.2	134.3	147.6	-6.9

NA Not applicable.

Source: Elaborated by IMP, with information from CFE, CRE, PEMEX and SENER.

TABLE C. 38
PETROLEUM-COKE REGIONAL DEMAND 2006-2016
(MBD)

Region	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Northwest	383.8	397.8	264.8	215.5	165.9	210.4	263.4	392.8	290.8	306.8	334.6	0.8
Northeast	935.9	1087.5	940.3	501.4	423.2	436.6	409.4	428.1	278.4	391.5	619.8	-3.8
Central-Western	1761.3	1985.1	1745.4	1759.1	1936.8	1908.6	1988.1	2155.0	2143.2	2251.1	2119.9	4.5
Central	1302.6	1414.0	1349.7	1204.1	1159.7	1256.6	1252.0	1557.4	1598.9	1707.2	1766.7	4.2
South-Southeast	239.5	299.4	303.7	288.5	304.3	400.1	445.6	492.7	516.3	603.5	580.3	13.1
Total	4623.1	5183.9	4603.9	3968.6	3989.8	4212.2	4358.5	5026.0	4827.7	5260.1	5421.3	3.8

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX, SE, SENER and private companies.



TABLE C. 39
DIESEL STATE DEMAND 2006-2016
(MBD)

State	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Aguascalientes	4.8	4.9	4.8	4.7	5	5.2	5.3	5	5.6	4.4	4.5	-0.6
Baja California	14.6	15.3	16.3	13	13.5	14.3	14.9	14.3	13.5	13	13.9	-0.5
Baja California Sur	5.3	5	5.5	5.3	5.3	7.5	7.9	5.8	6.8	5.6	5.5	0.3
Campeche	15	17.9	18.3	21.1	19.3	17.8	20.7	23.5	20.6	19.6	12.4	-1.9
Coahuila	5.6	5.6	5.9	5.4	5.7	6.5	6.8	5.7	5.5	4.8	4.7	-1.8
Colima	13.5	14.9	16.3	15.3	15.3	16.4	17.2	17.6	17.1	16.6	16.8	2.2
Chiapas	9.5	10.7	11.6	11.3	12.1	12.9	13.1	12.9	11.6	10.3	11.4	1.9
Chihuahua	5.1	6.7	7.4	7.8	13.2	14.1	13.6	10.2	12	13.5	14.5	11.1
Ciudad de México	26.8	27.3	27.1	26.4	25.2	25.2	26.8	26	26.8	25.4	25.6	-0.5
Durango	12.5	13.3	13.5	13.3	14.9	14.2	14.5	14.4	14.5	14.8	11.5	-0.8
Guanajuato	16	15.5	16.1	15.1	15.7	15.8	16.3	16.8	16.7	17.1	19.2	1.8
Guerrero	3.7	3.9	4.3	4.3	4.2	4.1	4.2	4.1	4.3	4.2	3.9	0.6
Hidalgo	11.3	12.2	13.4	12.8	14.3	15	14.8	14.1	16	20	16.5	3.9
Jalisco	22.1	21.2	22.3	20.9	18	18.2	17.8	18.7	17.9	16.3	17.7	-2.2
México	16	16.7	17.6	16.6	16.9	17.4	17	16.5	17	16.4	17.4	0.9
Michoacán	9.4	10.5	11.2	10.9	11.3	11.8	11.9	12.5	11.9	12.4	13	3.3
Morelos	3.5	3.6	3.8	3.8	3.7	3.7	3.8	3.5	3.5	3.9	4	1.2
Nayarit	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.6	1.6	1.5	3.8
Nuevo León	23.7	23.7	26.9	25.1	25.7	25.1	27.5	26.7	28.8	28.6	26.3	1
Oaxaca	5.5	5.6	7.6	5.6	5.4	5.4	5.9	5.5	5.4	5.6	5.6	0.1
Puebla	12.9	13.7	13.8	13.3	14.1	13.3	13.3	13.4	13.4	11.4	11.1	-1.5
Querétaro	11.5	11.7	11.4	11.5	12.5	12.7	15	14	11	9.2	9	-2.4
Quintana Roo	0.3	0.2	0.5	1.1	0.2	0.2	0.7	1.1	0.4	0.6	0.9	9.7
San Luis Potosí	8.6	9.8	10.6	9.9	10.5	10.9	11.4	11.2	10.9	10.6	9.3	0.8
Sinaloa	17.3	17.8	19.2	18.2	18.1	18.5	18.7	19	19.4	20.5	22.5	2.7
Sonora	14.1	14.8	15.4	14.3	15.7	18	19.6	20.1	20.5	21	21.6	4.3
Tabasco	8.3	8.4	9.3	9	8	7.5	8.4	8.1	6.4	3.1	2.6	-11.1
Tamaulipas	21.3	23.1	25	20.8	21.6	24.3	23.5	22.3	22.4	21.9	22.3	0.5
Tlaxcala	-	-	-	-	-	-	-	-	-	-	-	NA
Veracruz	24.8	26	26.6	25.9	27.8	28.7	31.7	32.2	32	34.3	34.6	3.4
Yucatán	12.4	10.7	12.8	11.2	12.2	11.8	13.1	13.8	12.7	13.7	14.5	1.6
Zacatecas	3.3	3.7	3.5	3.8	3.6	3.4	3.8	3.6	4.1	4	3.6	0.6
Total	359.8	375.5	399.5	378.9	390.2	401.2	420.3	413.9	410.2	404.6	397.7	1

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX, SCT, SENER and private companies.

TABLE C. 40
GASOLINES STATE DEMAND 2006-2016
(MBD)

State	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Aguascalientes	11.1	11.9	11.6	12.3	12.1	12.1	12.5	12.1	12	10.4	11.8	0.6
Baja California	37.5	39.6	41.7	38.5	39.2	40.6	41.2	39.3	37	38.2	40.6	0.8
Baja California Sur	8.4	9.1	9.5	9	9	8.9	8.9	8.7	8.6	8.7	9.1	0.9
Campeche	4	4.5	4.6	5	5	4.9	5.1	5.1	4.8	5.1	5.8	3.8
Coahuila	14.5	15.5	16.4	16.3	17.3	16.4	16.2	16.3	15.9	16.8	17.2	1.7
Colima	7	12.3	14.7	14.5	21.5	21	21.3	17.9	17.6	18.4	22	12.1
Chiapas	13.5	15.1	16.5	16.9	18.6	19.7	20.1	18.9	18.5	17.1	16.9	2.2
Chihuahua	31.6	33.3	34.5	32.9	32.3	31.6	31.6	31.4	31.3	33	34.3	0.8
Ciudad de México	101.1	104.2	104.7	102.5	104	103.5	103.8	102.1	101.7	104.9	103	0.2
Durango	18.2	19.5	19.8	20.3	19.9	19.2	19.1	19.5	20.1	21.8	19.7	0.8
Guanajuato	28.9	31.4	32.7	33.2	34.4	34	34.1	34.1	33.4	36.3	37.8	2.7
Guerrero	11.9	12.8	13.7	14	14	13.5	13.5	13	13.2	13.5	14.6	2
Hidalgo	19.4	20.8	22.9	23.7	24.7	25.2	24.7	24.2	26.6	28.8	29.2	4.2
Jalisco	48.3	46.1	46.6	46.4	41	41.5	40.5	41.1	39.9	40.4	41.8	-1.4
México	47.4	49	51.4	51.8	52.5	54.1	54.2	54	52.9	53.4	53.4	1.2
Michoacán	26.5	27.4	28.9	29.8	29.8	29.5	29	27.9	27.9	28.3	29.4	1
Morelos	13.6	13.5	14	14.7	15.1	15.1	15.2	15	14.7	15.1	14.9	0.9
Nayarit	3.8	4.1	4.2	4.6	4.6	4.5	4.6	4.7	4.9	4.8	4.6	2
Nuevo León	43.7	46	47.7	46.9	46.3	44.7	44.8	44.9	45.6	47.1	49.7	1.3
Oaxaca	11.1	12.2	12.9	13.5	13.9	13.9	14.3	14.3	14.1	14.3	15.1	3.1
Puebla	28.9	31.1	31.8	31.2	33.1	33	33	32.1	30.9	29.3	29.2	0.1
Querétaro	17.1	18.3	18.2	18.6	19.1	19.4	21	20.9	18.8	17	19.1	1.1
Quintana Roo	-	-	-	-	-	-	-	-	-	-	-	NA
San Luis Potosí	15.2	15.9	16.4	16.6	16.6	16.2	16.3	15.9	15.7	16.1	16.2	0.6
Sinaloa	24.7	26.4	28.5	28.6	28.4	27.6	27.6	26.7	26.1	27	30.4	2.1
Sonora	21.6	23.1	24.3	24	24.1	24.4	24.8	24.1	23.7	23.9	25.9	1.8
Tabasco	15	15.5	16.9	17.3	17.3	18	18.4	18.2	16.2	9.5	8.9	-5.1
Tamaulipas	31.4	33	35.1	35.1	32.3	30.3	30	29.2	29.1	32.3	36.4	1.5
Tlaxcala	-	-	-	-	-	-	-	-	-	-	-	NA
Veracruz	34.8	38.1	40.3	42.5	43.5	43.5	44.7	44.4	45.1	51.2	52.9	4.3
Yucatán	20.7	22.7	24.3	23.9	24.6	25.2	25.6	25.1	25.7	26.6	28.5	3.2
Zacatecas	7.8	8.4	7.7	8	8.4	8.3	8.3	7	6.5	5.4	5.6	-3.4
Total	718.9	761	792.6	792.6	802.3	800	804.4	788.2	778.4	794.6	823.9	1.4

NA Not applicable.

Note. Information is disaggregated by sales point, not by place of consumption.

Source: Elaborated by IMP, based on information from PEMEX.



TABLE C. 41
JET-FUEL STATE DEMAND, 2006-2016
(MBD)

State	Annual Data											AAGR 2006-2016
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Aguascalientes	-	-	-	-	-	-	-	-	-	-	-	NA
Baja California	3.3	0	0.3	2.8	2.9	2.6	2.8	3	3.2	3.5	3.8	1.6
Baja California Sur	2	2.3	1.9	1.8	2	2	2.1	2.1	2.2	2.4	2.5	1.9
Campeche	-	-	-	-	-	-	-	-	-	-	-	NA
Coahuila	-	-	-	-	-	-	-	-	-	-	-	NA
Colima	-	-	-	-	-	-	-	-	-	-	-	NA
Chiapas	-	-	-	-	-	-	-	-	-	-	-	NA
Chihuahua	-	-	-	-	-	-	-	-	-	-	-	NA
Ciudad de México	20.2	19.6	18.2	19.8	19.6	20.8	22.1	20.7	19.6	16.2	15.6	-2.5
Durango	-	-	-	-	-	-	-	-	-	-	-	NA
Guanajuato	13.1	10.6	10.4	8.6	8.2	7.4	8.2	10.7	9.4	9.7	9.2	-3.5
Guerrero	-	-	-	-	-	-	-	0	-	-	0.3	NA
Hidalgo	2.3	3.9	4.3	1.9	2.7	2.2	1.5	1.6	1.7	2.1	2	-1.3
Jalisco	-	-	-	-	-	-	-	-	-	-	-	NA
México	-	-	-	-	-	-	-	-	-	-	0	NA
Michoacán	-	-	-	-	-	-	-	-	-	-	-	NA
Morelos	-	-	-	-	-	-	-	-	-	-	-	NA
Nayarit	-	-	-	-	-	-	-	-	-	-	-	NA
Nuevo León	4.4	9.5	6.3	5	3	3.4	4.9	3.4	3.8	3.2	2.1	-6.9
Oaxaca	2.3	5.8	5.6	5	5.4	8	5.3	8.1	7.8	6.8	6.4	10.6
Puebla	-	-	-	-	-	-	-	-	-	-	-	NA
Querétaro	-	-	-	-	-	-	-	-	-	-	-	NA
Quintana Roo	-	-	-	-	-	-	-	-	-	-	-	NA
San Luis Potosí	-	-	-	-	-	-	-	-	-	-	-	NA
Sinaloa	-	-	-	-	-	-	-	-	-	-	-	NA
Sonora	2.1	5.3	4.1	1.5	1.7	1.9	1.7	2	2	2.4	3.2	4.1
Tabasco	-	-	-	-	-	-	-	-	-	-	-	NA
Tamaulipas	0.3	0	0.4	0.2	1.4	1.8	1.3	1.8	2.1	3.6	5.4	34.7
Tlaxcala	-	-	-	-	-	-	-	-	-	-	-	NA
Veracruz	2.4	2.9	4.2	1.8	2.9	1.4	3.6	1.8	5.9	11.1	13.4	18.9
Yucatán	8.8	8.1	9.2	6.7	6.1	4.8	6	7	8.9	9.7	12.4	3.5
Zacatecas	-	-	-	-	-	-	-	-	-	-	-	NA
Total	61.2	67.9	65	55	55.8	56.1	59.3	62.2	66.5	70.8	76.2	2.2

NA Not applicable.

Note: Information is disaggregated by sales point, not by place of consumption.

Note: Does not include avgas.

Source: Elaborated by IMP, based on information from PEMEX.

TABLE C. 42
OIL-PRODUCTS DOMESTIC BALANCE, 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	1,633.0	1,693.9	1,728.8	1,757.1	1,709.6	1,743.0	1,737.2	1,714.5	1,743.9	1,810.7	1,833.9	1,853.6	1,877.8	1,898.3	1,919.2	0.9
Production	783.8	813.4	1,085.4	1,089.4	1,136.1	1,135.3	1,193.7	1,212.1	1,227.9	1,461.7	1,467.2	1,471.5	1,475.5	1,479.5	1,479.5	3.7
Cadereyta	137.0	173.9	184.0	184.0	184.0	184.0	184.0	192.3	192.3	192.3	192.3	192.3	192.3	192.3	192.3	3.4
Madero	52.7	86.5	119.2	119.5	119.5	118.8	156.2	156.2	156.8	156.8	156.8	156.8	156.8	156.8	156.8	4.9
Tula	193.2	213.8	222.6	222.6	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	2.6
Salamanca	136.3	148.7	148.7	152.4	152.4	152.4	165.8	164.2	165.0	164.8	167.4	168.7	169.8	170.9	170.9	1.1
Minatitlán	98.0	145.7	155.7	155.7	155.7	155.7	163.3	166.3	169.2	172.1	175.1	178.0	180.9	183.9	183.9	3.3
New capacity	-	-	-	-	-	-	-	-	-	231.1	231.1	231.1	231.1	231.1	231.1	NA
Salina Cruz	166.7	244.8	255.1	255.1	255.1	255.1	255.1	263.9	275.3	275.3	275.3	275.3	275.3	275.3	275.3	1.6
Import	849.2	680.4	643.4	667.6	573.5	607.7	543.5	502.5	516.1	349.1	366.7	382.1	402.3	418.8	439.7	-4
Destination	1,633.0	1,693.9	1,728.8	1,757.1	1,709.6	1,743.0	1,737.2	1,714.5	1,743.9	1,810.7	1,833.9	1,853.6	1,877.8	1,898.3	1,919.2	1
Domestic demand	1,582.5	1,589.8	1,577.7	1,590.8	1,611.9	1,632.8	1,659.5	1,677.2	1,704.9	1,734.1	1,759.1	1,777.6	1,801.3	1,820.9	1,842.4	1.2
Transportation Sector	1,267.3	1,293.8	1,318.2	1,342.7	1,371.7	1,406.4	1,434.1	1,458.5	1,485.8	1,510.9	1,535.7	1,554.2	1,576.6	1,596.9	1,615.8	1.7
Electricity Sector	176.1	143.1	102.3	92.1	82.5	67.2	64.8	57.0	56.9	59.8	59.9	60.1	61.4	60.8	62.5	-5.5
Industrial Sector	116.0	119.8	116.1	114.8	116.5	118.0	119.4	120.6	121.0	122.1	122.3	122.0	122.2	122.0	122.9	0
Oil Sector	23.2	33.1	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	1.9
Export	50.5	104.1	151.1	166.3	97.8	110.2	77.7	37.3	39.0	76.6	74.8	75.9	76.5	77.4	76.8	-2.6
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 43
OIL-PRODUCTS BALANCE 2017-2031, NORTHWEST REGION
(MBD)

Concept	Annual Data															AAGR 2006-2016
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	213.4	215.5	215.6	216.0	218.5	219.3	224.4	224.3	226.4	231.1	232.7	234.1	238.0	239.4	243.1	1.1
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	213.4	215.5	215.6	216.0	218.5	219.3	224.4	224.3	226.4	231.1	232.7	234.1	238.0	239.4	243.1	7.4
Destination	213.4	215.5	215.6	216.0	218.5	219.3	224.4	224.3	226.4	231.1	232.7	234.1	238.0	239.4	243.1	1.1
Domestic demand	213.4	215.5	215.6	216.0	218.5	219.3	224.4	224.3	226.4	231.1	232.7	234.1	238.0	239.4	243.1	1.2
Transportation Sector	171.5	176.4	180.1	183.6	187.2	191.1	194.3	196.2	198.4	200.1	201.5	202.4	203.9	205.0	206.5	1.4
Electricity Sector	28.0	24.0	20.8	16.8	15.5	12.3	14.0	11.8	11.6	14.5	14.6	15.1	17.5	17.7	19.9	-0.7
Industrial Sector	13.9	15.0	14.8	15.6	15.8	16.0	16.2	16.3	16.4	16.5	16.6	16.6	16.6	16.6	16.8	1.5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 44
OIL-PRODUCTS BALANCE 2017-2031, REGION NORTHEAST
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	392.4	396.5	394.6	398	368.6	372.4	380.4	386.4	387.6	388.4	390.2	390.3	391.4	393	393.8	-0.4
Production	189.7	260.4	303.2	303.6	303.6	302.8	340.2	348.4	349.1	349.1	349.1	349.1	349.1	349.1	349.1	4
Cadereyta	137	173.9	184	184	184	184	184	192.3	192.3	192.3	192.3	192.3	192.3	192.3	192.3	3.4
Madero	52.7	86.5	119.2	119.5	119.5	118.8	156.2	156.2	156.8	156.8	156.8	156.8	156.8	156.8	156.8	4.9
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	81.1	55.7	45.2	45.4	14.4	15.9	-	-	-	-	-	-	-	-	-	NA
From other regions	121.7	80.4	46.2	49	50.6	53.8	40.3	37.9	38.5	39.3	41.1	41.2	42.4	43.9	44.7	10.2
Destination	392.4	396.5	394.6	398	368.6	372.4	380.4	386.4	387.6	388.4	390.2	390.3	391.4	393	393.8	-0.4
Domestic demand	303.6	307.2	291	296.7	303.3	309.7	313.8	317.2	320.6	324.1	327.8	329.7	332.3	335.4	338.1	1.2
Transportation Sector	252.3	258.6	263.2	268.4	273.6	279.4	283.1	285.8	289	292.1	295.7	297.5	300.7	304.2	306.7	1.5
Electricity Sector	26.9	22.4	1.1	1.6	2.5	2.8	2.8	3	3	3	3	2.8	2.2	1.7	1.5	-14.6
Industrial Sector	22.1	23.3	23	23	23.5	23.9	24.3	24.7	25	25.3	25.5	25.6	25.8	25.9	26.2	1.6
Oil Sector	2.3	3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	6.7
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	88.9	89.3	103.6	101.3	65.3	62.7	66.6	69.2	67	64.3	62.4	60.6	59.1	57.6	55.7	-4.9
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 45
OIL-PRODUCTS BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	383.3	393	398.8	405.4	410.8	417.4	384.1	390.9	398.4	405.6	412.4	417.3	423.1	429.2	435.4	0.7
Production	136.3	148.7	148.7	152.4	152.4	152.4	165.8	164.2	165	164.8	167.4	168.7	169.8	170.9	170.9	1.1
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	136.3	148.7	148.7	152.4	152.4	152.4	165.8	164.2	165	164.8	167.4	168.7	169.8	170.9	170.9	1.1
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	247	244.2	250	252.9	258.4	265	218.3	226.7	233.4	240.8	245.1	248.5	253.3	258.3	264.5	1.6
Destination	383.3	393	398.8	405.4	410.8	417.4	384.1	390.9	398.4	405.6	412.4	417.3	423.1	429.2	435.4	0.8
Domestic demand	359.6	365.3	369.9	372.4	372.8	379.4	384.1	390.9	398.4	405.6	412.4	417.3	423.1	429.2	435.4	1.4
Transportation Sector	289.9	296.3	302.4	308.1	313.1	319.3	323.8	330.5	337.8	344.8	351.6	356.6	362.4	368.6	374.8	1.8
Electricity Sector	40	40	39.2	36.5	31.6	31.6	31.6	31.5	31.6	31.6	31.6	31.5	31.6	31.6	31.4	-0.1
Industrial Sector	28.5	27.3	26	25.4	25.8	26.1	26.3	26.6	26.6	26.8	26.8	26.7	26.7	26.6	26.8	-1.1
Oil Sector	1.1	1.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.4
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	23.7	27.7	28.8	33	38	38	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 46
OIL-PRODUCTS BALANCE 2017-2031, CENTRAL REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	428.9	445.9	454.8	458.6	408.1	416.8	420.8	421.8	428	432.8	436.9	440.3	443.7	445.7	447.2	0.4
Production	193.2	213.8	222.6	222.6	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	2.6
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	193.2	213.8	222.6	222.6	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	269.3	2.6
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	235.7	232.1	232.2	236	138.9	147.6	151.5	152.6	158.7	163.5	167.6	171.1	174.4	176.4	177.9	-1.9
Destination	428.9	445.9	454.8	458.6	408.1	416.8	420.8	421.8	428	432.8	436.9	440.3	443.7	445.7	447.2	0.4
Domestic demand	385.8	396.5	401.3	402.5	408.1	416.8	420.8	421.8	428	432.8	436.9	440.3	443.7	445.7	447.2	1
Transportation Sector	324.3	328.1	333	338.2	346.5	354.7	362.1	368.4	374.6	379.1	383.3	387	390.4	392.6	394	1.4
Electricity Sector	19.7	19.7	16.5	13.5	10.4	10.4	6.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	-18.7
Industrial Sector	35.6	38.3	37.1	36.1	36.6	37	37.4	37.6	37.6	37.9	37.8	37.6	37.5	37.3	37.5	-0.5
Oil Sector	6.2	10.4	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	6.6
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	43.1	49.4	53.5	56.1	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.



TABLE C. 47
OIL-PRODUCTS BALANCE 2017-2031, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	1,068.2	1,047.6	1,070.6	1,109.4	977.7	1,014.1	961.9	932.6	960.6	1,027.6	1,048.2	1,066.5	1,089.7	1,109.1	1,130.0	2.5
Production	264.7	390.5	410.8	410.8	410.8	410.8	418.5	430.1	444.5	678.5	681.5	684.4	687.3	690.3	690.3	5
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	98.0	145.7	155.7	155.7	155.7	155.7	163.3	166.3	169.2	172.1	175.1	178.0	180.9	183.9	183.9	3.3
Salina Cruz	-	-	-	-	-	-	-	-	-	231.1	231.1	231.1	231.1	231.1	231.1	NA
New capacity	166.7	244.8	255.1	255.1	255.1	255.1	255.1	263.9	275.3	275.3	275.3	275.3	275.3	275.3	275.3	1.6
Import	768.1	624.8	598.2	622.2	559.1	591.8	543.5	502.5	516.1	349.1	366.7	382.1	402.3	418.8	439.7	-0.1
From other regions	35.4	32.4	61.5	76.3	7.8	11.4	-	-	-	-	-	-	-	-	-	NA
Destination	1,068.2	1,047.6	1,070.6	1,109.4	977.7	1,014.1	961.9	932.6	960.6	1,027.6	1,048.2	1,066.5	1,089.7	1,109.1	1,130.0	2.5
Domestic demand	320.1	305.4	299.9	303.2	309.1	307.5	316.3	322.9	331.5	340.5	349.3	356.3	364.2	371.2	378.7	1
Transportation Sector	229.3	234.4	239.5	244.5	251.3	261.9	270.9	277.6	286.1	294.9	303.6	310.7	319.2	326.5	333.9	2.4
Electricity Sector	61.4	37.0	24.7	23.6	22.4	10.1	9.7	9.5	9.5	9.6	9.6	9.6	9.1	8.8	8.7	-11.2
Industrial Sector	15.8	15.9	15.2	14.7	14.9	15.1	15.2	15.3	15.4	15.5	15.5	15.5	15.5	15.5	15.6	-0.5
Oil Sector	13.6	18.0	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	-0.2
Export	50.5	104.1	151.1	166.3	97.8	110.2	77.7	37.3	39.0	76.6	74.8	75.9	76.5	77.4	76.8	1
To other regions	697.5	638.2	619.6	639.8	570.8	596.4	567.9	572.3	590.1	610.5	624.1	634.2	648.9	660.4	674.6	3.8
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from ASA, CFE, CRE, DGAC, PEMEX, SE, SENER and private companies.

TABLE C. 48
GASOLINES DOMESTIC BALANCE, 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	829.6	847.1	860.6	872.7	886.4	906.3	921.6	935.2	950.4	963	974.9	982.1	992.2	1,000.50	1,008.60	1.3
Production	295.2	389.6	417.7	419.2	476.2	475.9	507	538.8	545.6	644.9	647.2	649	650.7	652.4	652.4	4.7
Cadereyta	53.3	69.7	73.7	73.7	73.7	73.7	73.7	77	77	77	77	77	77	77	77	3.6
Madero	19.9	34.7	47.8	47.9	47.9	47.6	62.6	62.6	62.9	62.9	62.9	62.9	62.9	62.9	62.9	4.6
Tula	69.4	76.8	79.9	79.9	137	137	137	137	137	137	137	137	137	137	137	4.9
Salamanca	51.8	56.5	56.5	57.9	57.9	57.9	70.7	70.1	70.4	70.3	71.4	72	72.5	72.9	72.9	1.7
Minatitlán	44.6	69.3	73.6	73.6	73.6	73.6	76.8	78	79.3	80.5	81.7	83	84.2	85.4	85.4	3.3
New capacity	-	-	-	-	-	-	-	-	-	98.1	98.1	98.1	98.1	98.1	98.1	NA
Salina Cruz	56.3	82.7	86.2	86.2	86.2	86.2	86.2	114.1	119.1	119.1	119.1	119.1	119.1	119.1	119.1	3.5
Import*	534.4	457.5	443	453.5	410.1	430.4	414.6	396.4	404.9	318.1	327.7	333	341.4	348.1	356.2	-2.2
Destination	829.6	847.1	860.6	872.7	886.4	906.3	921.6	935.2	950.4	963	974.9	982.1	992.2	1,000.5	1,008.6	1.4
Domestic demand	829.6	847.1	860.6	872.7	886.4	906.3	921.6	935.2	950.4	963	974.9	982.1	992.2	1,000.50	1,008.60	1.4
Sector Motor-Carrier	828.2	844.3	856.5	868.6	882.2	902.1	917.5	931	946.3	958.8	970.8	977.9	988	996.4	1,004.50	1.3
Oil Sector	1.4	2.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	10.3
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 49
GASOLINES BALANCE 2017-2031, NORTHWEST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	107.7	110.5	112.9	114.7	116.5	119	121	122.2	123.3	124	124.5	124.5	124.9	125.2	125.8	1.1
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	107.7	110.5	112.9	114.7	116.5	119	121	122.2	123.3	124	124.5	124.5	124.9	125.2	125.8	7.4
Destination	107.7	110.5	112.9	114.7	116.5	119	121	122.2	123.3	124	124.5	124.5	124.9	125.2	125.8	1.1
Domestic demand	107.7	110.5	112.9	114.7	116.5	119	121	122.2	123.3	124	124.5	124.5	124.9	125.2	125.8	1.1
Sector Motor-Carrier	107.7	110.5	112.9	114.7	116.5	119	121	122.2	123.3	124	124.5	124.5	124.9	125.2	125.8	1.1
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.



TABLE C. 50
GASOLINES BALANCE 2017-2031, NORTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	161	165.5	167.7	170.7	172.3	175.1	176.6	177.6	178.4	179.2	181	181.1	182.2	183.8	184.6	0.1
Production	73.1	104.3	121.5	121.6	121.6	121.3	136.3	139.6	139.9	139.9	139.9	139.9	139.9	139.9	139.9	4
Cadereyta	53.3	69.7	73.7	73.7	73.7	73.7	73.7	77	77	77	77	77	77	77	77	3.6
Madero	19.9	34.7	47.8	47.9	47.9	47.6	62.6	62.6	62.9	62.9	62.9	62.9	62.9	62.9	62.9	4.6
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	87.9	61.1	46.2	49	50.6	53.8	40.3	37.9	38.5	39.3	41.1	41.2	42.4	43.9	44.7	21.7
Destination	161	165.5	167.7	170.7	172.3	175.1	176.6	177.6	178.4	179.2	181	181.1	182.2	183.8	184.6	0.1
Domestic demand	161	165.5	167.7	170.7	172.3	175.1	176.6	177.6	178.4	179.2	181	181.1	182.2	183.8	184.6	1.1
Sector Motor-Carrier	161	165.5	167.7	170.7	172.3	175.1	176.6	177.6	178.4	179.2	181	181.1	182.2	183.8	184.6	1.1
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	0	-	-	0	-	-	-	0	-	-	-	0	-89.4
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 51
GASOLINES BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	187	191.3	194.5	197.4	199.7	203.9	206.5	210.4	215.6	219.7	223	225.1	227.9	230.6	234	1.5
Production	51.8	56.5	56.5	57.9	57.9	57.9	70.7	70.1	70.4	70.3	71.4	72	72.5	72.9	72.9	1.7
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	51.8	56.5	56.5	57.9	57.9	57.9	70.7	70.1	70.4	70.3	71.4	72	72.5	72.9	72.9	1.7
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	135.2	134.9	138	139.5	141.8	146	135.7	140.4	145.2	149.4	151.6	153.1	155.5	157.6	161.1	2.6
Destination	187	191.3	194.5	197.4	199.7	203.9	206.5	210.4	215.6	219.7	223	225.1	227.9	230.6	234	1.5
Domestic demand	187	191.3	194.5	197.4	199.7	203.9	206.5	210.4	215.6	219.7	223	225.1	227.9	230.6	234	1.5
Sector Motor-Carrier	187	191.3	194.5	197.4	199.7	203.9	206.5	210.4	215.6	219.7	223	225.1	227.9	230.6	234	1.5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 52
GASOLINES BALANCE 2017-2031, CENTRAL REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	232.3	234.9	238.9	241.3	246.2	250.6	255	259	262.3	264.3	265.9	267.2	268	268.1	268	1
Production	69.4	76.8	79.9	79.9	137	137	137	137	137	137	137	137	137	137	137	4.9
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	69.4	76.8	79.9	79.9	137	137	137	137	137	137	137	137	137	137	137	4.9
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	162.9	158.1	158.9	161.3	109.3	113.7	118	122	125.3	127.3	128.9	130.3	131	131.2	131	-1.4
Destination	232.3	234.9	238.9	241.3	246.2	250.6	255	259	262.3	264.3	265.9	267.2	268	268.1	268	1
Domestic demand	232.3	234.9	238.9	241.3	246.2	250.6	255	259	262.3	264.3	265.9	267.2	268	268.1	268	1
Sector Motor-Carrier	231.2	232.5	235.1	237.5	242.5	246.9	251.2	255.2	258.5	260.5	262.2	263.5	264.3	264.4	264.3	1
Oil Sector	1	2.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	12.8
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.

TABLE C. 53
GASOLINES BALANCE 2017-2031, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	635.4	609.5	602.7	613.3	569.9	590.1	577.6	588.5	603.2	615.8	626.7	633.2	642.9	650.8	658.9	2.8
Production	100.9	152	159.7	159.7	159.7	159.7	163	192.1	198.3	297.7	299	300.2	301.4	302.7	302.7	6.1
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	44.6	69.3	73.6	73.6	73.6	73.6	76.8	78	79.3	80.5	81.7	83	84.2	85.4	85.4	3.3
New capacity	-	-	-	-	-	-	-	-	-	98.1	98.1	98.1	98.1	98.1	98.1	NA
Salina Cruz	56.3	82.7	86.2	86.2	86.2	86.2	86.2	114.1	119.1	119.1	119.1	119.1	119.1	119.1	119.1	3.5
Import*	534.4	457.5	443	453.5	410.1	430.4	414.6	396.4	404.9	318.1	327.7	333	341.4	348.1	356.2	0.9
From other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	635.4	609.5	602.7	613.3	569.9	590.1	577.6	588.5	603.2	615.8	626.7	633.2	642.9	650.8	658.9	2.8
Domestic demand	141.7	144.8	146.7	148.7	151.7	157.6	162.6	166	170.8	175.8	180.5	184.1	189.1	192.8	196.3	2.2
Sector Motor-Carrier	141.4	144.5	146.3	148.3	151.4	157.2	162.2	165.6	170.5	175.4	180.2	183.7	188.7	192.4	195.9	2.2
Oil Sector	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	493.7	464.7	456	464.6	418.1	432.5	415	422.5	432.4	440	446.2	449.1	453.8	458	462.6	3.1
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from PEMEX and SENER.



TABLE C. 54
DIESEL DOMESTIC BALANCE, 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	413.7	421.3	433.3	445.1	456.8	466.4	478.1	484.5	494.6	506.6	514.1	522	529.6	537.8	545.1	2
Production	204.2	271.9	294.3	295.3	335.2	334.9	378.1	416.2	421.6	506.6	508.5	510	511.3	512.6	512.6	5.9
Cadereyta	52.9	71.5	75.6	75.6	75.6	75.6	75.6	79	79	79	79	79	79	79	79	4
Madero	14	29.7	41	41.1	41.1	40.8	53.7	53.7	53.9	53.9	53.9	53.9	53.9	53.9	53.9	5.9
Tula	35.5	39.3	41	41	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	5.9
Salamanca	34	37.1	37.1	38	38	38	66	65.4	65.7	65.6	66.7	67.2	67.6	68.1	68.1	4.8
Minatitlán	31.3	40.8	43.9	43.9	43.9	43.9	46.2	47.1	48	48.9	49.8	50.7	51.6	52.6	52.6	2.5
Salina Cruz	-	-	-	-	-	-	-	-	-	84.2	84.2	84.2	84.2	84.2	84.2	NA
New capacity	36.4	53.5	55.7	55.7	55.7	55.7	55.7	90.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	4.9
Import	209.5	149.4	139.1	149.9	121.6	131.5	99.9	68.3	73.1	-	5.6	12	18.3	25.2	32.5	-11
Destination	413.7	421.3	433.3	445.1	456.8	466.4	478.1	484.5	494.6	506.6	514.1	522	529.6	537.8	545.1	2.1
Domestic demand	413.7	421.3	433.3	445.1	456.8	466.4	478.1	484.5	494.6	504.1	514.1	522	529.6	537.8	545.1	2.1
Industrial Sector	28.4	28.6	28.7	29	29.2	29.5	29.7	29.9	30.2	30.4	30.7	30.9	31.1	31.3	31.6	1.2
Oil Sector	6.9	10.8	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	2.4
Transportation Sector	359.3	367.5	377.5	387	399.9	412.1	421.8	429.9	439.2	448.8	458.5	466.8	475.9	484.4	491.8	2.3
Motor-Carrier	331.7	340	349.9	359.2	371.7	383.3	392.4	400	408.7	417.7	426.7	434.4	442.8	450.7	457.3	2.4
Railway Transportation	13.7	14.1	14.5	15	15.4	15.9	16.4	16.9	17.4	17.9	18.5	19	19.6	20.2	20.8	3
Maritime Transportation	13.9	13.3	13.1	12.8	12.8	12.8	12.9	13	13.1	13.2	13.3	13.4	13.5	13.6	13.7	-0.4
Electricity Sector	19.1	14.5	12.4	14.5	13	10.2	12	10.1	10.6	10.2	10.4	9.7	8	7.4	7.1	-3
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 55
DIESEL BALANCE 2017-2031, NORTHWEST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	63.8	64.5	65.5	69.6	70.1	71.5	74.6	73.2	74.5	74.7	75.3	75.3	75.7	76.3	76.9	1.1
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	63.8	64.5	65.5	69.6	70.1	71.5	74.6	73.2	74.5	74.7	75.3	75.3	75.7	76.3	76.9	12.3
Destination	63.8	64.5	65.5	69.6	70.1	71.5	74.6	73.2	74.5	74.7	75.3	75.3	75.7	76.3	76.9	1.2
Domestic demand	63.8	64.5	65.5	69.6	70.1	71.5	74.6	73.2	74.5	74.7	75.3	75.3	75.7	76.3	76.9	1.3
Industrial Sector	6.4	6.5	6.6	6.7	6.8	6.9	7	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	0.7
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Transportation Sector	53.9	55.3	56.3	57.6	59.1	60	60.8	61.2	61.9	62.5	62.9	63.4	64.1	64.3	64.7	1.3
Motor-Carrier	45.8	47.4	48.4	49.8	51.3	52.1	52.8	53.1	53.7	54.2	54.5	54.9	55.5	55.7	55.9	1.6
Railway Transportation	2.4	2.5	2.5	2.6	2.7	2.8	2.9	2.9	3	3.1	3.2	3.3	3.4	3.5	3.6	3
Maritime Transportation	5.7	5.5	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	-1.7
Electricity Sector	3.5	2.6	2.7	5.2	4.1	4.6	6.7	4.8	5.3	4.9	5	4.4	4	4.2	4.4	2.3
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 56
DIESEL BALANCE 2017-2031, NORTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	94.3	101.2	116.6	116.7	116.7	116.5	129.3	132.7	132.9	132.9	132.9	132.9	132.9	132.9	132.9	1.3
Production	67	101.2	116.6	116.7	116.7	116.5	129.3	132.7	132.9	132.9	132.9	132.9	132.9	132.9	132.9	4.7
Cadereyta	52.9	71.5	75.6	75.6	75.6	75.6	75.6	79	79	79	79.01	79	79	79	79	4
Madero	14	29.7	41	41.1	41.1	40.8	53.7	53.7	53.9	53.9	53.93	53.9	53.9	53.9	53.9	5.9
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	27.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	94.3	101.2	116.6	116.7	116.7	116.5	129.3	132.7	132.9	132.9	132.9	132.9	132.9	132.9	132.9	1.4
Domestic demand	94.3	93.9	95.4	98.4	102.3	105.3	107.3	109.1	111.2	113.3	114.7	116.1	117.2	118.3	119.5	2
Industrial Sector	8.8	8.9	9.1	9.2	9.3	9.5	9.6	9.7	9.8	9.9	10.05	10.2	10.3	10.3	10.5	1.8
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Transportation Sector	81.7	83.3	85.5	87.4	90.7	93.3	95.2	96.6	98.6	100.6	101.9	103.4	105	106.5	107.8	2.1
Motor-Carrier	76.6	78	80.2	82	85.2	87.7	89.4	90.7	92.5	94.3	95.5	96.8	98.3	99.6	100.7	2.1
Railway Transportation	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.6	4.7	4.8	4.99	5.1	5.3	5.4	5.6	3
Maritime Transportation	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.42	1.4	1.4	1.5	1.5	0.5
Electricity Sector	3.7	1.7	0.9	1.4	2.3	2.5	2.5	2.7	2.7	2.7	2.73	2.6	1.9	1.4	1.3	0.3
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	7.3	21.2	18.8	14.4	11.2	22	23.7	21.7	19.7	18.18	16.9	15.8	14.6	13.4	-2.5
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 57
DIESEL BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	96	97.7	100.4	102.8	105.2	106.8	108.4	110.7	112.4	114.9	118	120.5	122.9	126	128.1	2.1
Production	34	37.1	37.1	38	38	38	66	65.4	65.7	65.6	66.7	67.2	67.6	68.1	68.1	4.8
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	34	37.1	37.1	38	38	38	66	65.4	65.7	65.6	66.7	67.2	67.6	68.1	68.1	4.8
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	62	60.6	63.3	64.8	67.2	68.8	42.3	45.3	46.7	49.3	51.4	53.3	55.3	57.9	60.1	1.6
Destination	96	97.7	100.4	102.8	105.2	106.8	108.4	110.7	112.4	114.9	118	120.5	122.9	126	128.1	2.2
Domestic demand	96	97.7	100.4	102.8	105.2	106.8	108.4	110.7	112.4	114.9	118	120.5	122.9	126	128.1	2.2
Industrial Sector	6	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7	7	7.1	7.2	7.3	3.1
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Transportation Sector	89.3	90.9	93.5	95.8	98.1	99.7	101.1	103.4	105	107.4	110.4	112.8	115.2	118.1	120.4	2.2
Motor-Carrier	84.8	86.3	88.9	91.1	93.3	94.7	96	98.1	99.5	101.8	104.7	106.9	109.1	111.9	114	2.1
Railway Transportation	3.5	3.6	3.7	3.9	4	4.1	4.2	4.4	4.5	4.6	4.8	4.9	5.1	5.2	5.4	3.1
Maritime Transportation	1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1	1	1	2.8
Electricity Sector	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.4	-1
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 58
DIESEL BALANCE 2017-2031, CENTRAL REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	77.7	79.5	81.1	82.6	85.1	88.2	90.4	92	94.1	95.9	97.6	99.1	101	102.2	102.8	2.1
Production	35.5	39.3	41	41	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	5.9
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	35.5	39.3	41	41	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	5.9
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	42.2	40.2	40.1	41.6	4.2	7.4	9.6	11.2	13.2	15	16.7	18.3	20.1	21.3	22	-4.1
Destination	77.7	79.5	81.1	82.6	85.1	88.2	90.4	92	94.1	95.9	97.6	99.1	101	102.2	102.8	2.2
Domestic demand	77.7	79.5	81.1	82.6	85.1	88.2	90.4	92	94.1	95.9	97.6	99.1	101	102.2	102.8	2.2
Industrial Sector	3.6	3.4	3.3	3.1	2.9	2.8	2.6	2.5	2.4	2.3	2.1	2	1.9	1.8	1.7	-3.6
Oil Sector	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3
Transportation Sector	73.4	75.4	77.2	78.8	81.5	84.7	87.1	88.8	91	92.9	94.7	96.4	98.4	99.7	100.5	2.3
Motor-Carrier	71.4	73.4	75.1	76.6	79.2	82.4	84.7	86.3	88.4	90.3	92	93.6	95.5	96.8	97.5	2.3
Railway Transportation	2	2	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3	3.1
Maritime Transportation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	4.8
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.

TABLE C. 59
DIESEL BALANCE 2017-2031, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	277.2	243.6	238.6	249.4	221.2	231	201.9	205.5	215.1	227.2	233.7	241	248.2	256	263.3	3.3
Production	67.7	94.2	99.6	99.6	99.6	99.6	101.9	137.3	142.1	227.2	228.1	229	229.9	230.8	230.8	7.2
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	31.3	40.8	43.9	43.9	43.9	43.9	46.2	47.1	48	48.9	49.8	50.7	51.6	52.6	52.6	2.5
Salina Cruz	-	-	-	-	-	-	-	-	-	84.2	84.2	84.2	84.2	84.2	84.2	NA
New capacity	36.4	53.5	55.7	55.7	55.7	55.7	55.7	90.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	4.9
Import	209.5	149.4	139.1	149.9	121.6	131.5	99.9	68.3	73.1	-	5.6	12	18.3	25.2	32.5	-5.9
From other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	277.2	243.6	238.6	249.4	221.2	231	201.9	205.5	215.1	227.2	233.7	241	248.2	256	263.3	3.3
Domestic demand	81.9	85.7	90.9	92.2	94.1	94.4	97.4	99.6	102.5	105.4	108.5	111	112.8	115.1	117.8	2.7
Industrial Sector	3.6	3.6	3.6	3.7	3.7	3.8	3.8	3.9	4	4	4.1	4.2	4.3	4.3	4.4	1.1
Oil Sector	6.3	10.2	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	2.4
Transportation Sector	61	62.6	65.1	67.4	70.4	74.3	77.6	79.9	82.7	85.5	88.5	90.9	93.3	95.7	98.4	3.4
Motor-Carrier	53.1	54.9	57.4	59.7	62.7	66.5	69.6	71.8	74.4	77.1	79.9	82.2	84.4	86.7	89.2	3.8
Railway Transportation	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.8	2.9	3	3.1	3.2	2.8
Maritime Transportation	5.8	5.5	5.4	5.4	5.4	5.4	5.5	5.6	5.6	5.7	5.7	5.8	5.9	6	6	0.3
Electricity Sector	11	9.4	8.2	7.1	5.9	2.3	1.9	1.7	1.7	1.8	1.8	1.8	1.3	1	0.9	-12.1
Export	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	NA
To other regions	195.3	157.9	147.7	157.2	127.1	136.6	104.5	105.9	112.7	119.3	125.2	130	135.3	140.9	145.5	3.9
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, with information from CRE, CFE, PEMEX and SENER.



TABLE C. 60
DOMESTIC JET-FUEL BALANCE, 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	79.3	81.5	83.7	86.7	89.2	91.8	94.4	97.2	99.9	102.9	106	109.1	112.3	115.7	119.1	3
Production	55.1	63.7	67.5	67.8	61.8	61.8	65.5	63.8	64.6	77.7	78	78.1	78.2	78.4	78.4	4.1
Cadereyta	8.1	5.8	6.2	6.2	6.2	6.2	6.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	8.1
Madero	3.7	4.6	6.4	6.4	6.4	6.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	24.5
Tula	21.6	23.9	24.9	24.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	0.4
Salamanca	10.7	11.7	11.7	12	12	12	13.6	13.5	13.6	13.6	13.8	13.9	14	14.1	14.1	3
Minatitlán	-	1.4	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	13.2	13.2	13.2	13.2	13.2	13.2	NA
Nueva capacidad	11	16.2	16.9	16.9	16.9	16.9	16.9	15	15.6	15.6	15.6	15.6	15.6	15.6	15.6	1
Import	24.2	17.9	16.2	18.9	27.4	30	28.9	33.4	35.4	25.1	28	31	34	37.3	40.7	1.3
Destination	79.3	81.5	83.7	86.7	89.2	91.8	94.4	97.2	99.9	102.9	106	109.1	112.3	115.7	119.1	3
Domestic demand	79.3	81.5	83.7	86.7	89.2	91.8	94.4	97.2	99.9	102.9	106	109.1	112.3	115.7	119.1	3
Transportation Sector	79.3	81.5	83.7	86.7	89.2	91.8	94.4	97.2	99.9	102.9	106	109.1	112.3	115.7	119.1	3
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.

TABLE C. 61
JET-FUEL BALANCE 2017-2031, NORTHWEST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	10	10.6	10.9	11.2	11.6	12	12.4	12.8	13.2	13.6	14.1	14.5	15	15.5	16	3.5
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
De otra regiones	10	10.6	10.9	11.2	11.6	12	12.4	12.8	13.2	13.6	14.1	14.5	15	15.5	16	5.8
Destination	10	10.6	10.9	11.2	11.6	12	12.4	12.8	13.2	13.6	14.1	14.5	15	15.5	16	3.5
Domestic demand	10	10.6	10.9	11.2	11.6	12	12.4	12.8	13.2	13.6	14.1	14.5	15	15.5	16	3.5
Transportation Sector	10	10.6	10.9	11.2	11.6	12	12.4	12.8	13.2	13.6	14.1	14.5	15	15.5	16	3.5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.



TABLE C. 62
JET-FUEL BALANCE 2017-2031, NORTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	11.8	10.5	12.6	12.6	12.6	12.5	14.6	14.8	14.9	14.9	14.9	14.9	14.9	14.9	14.9	4.2
Production	11.8	10.5	12.6	12.6	12.6	12.5	14.6	14.8	14.9	14.9	14.9	14.9	14.9	14.9	14.9	13.2
Cadereyta	8.1	5.8	6.2	6.2	6.2	6.2	6.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	8.1
Madero	3.7	4.6	6.4	6.4	6.4	6.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	24.5
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
De otra regiones	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	11.8	10.5	12.6	12.6	12.6	12.5	14.6	14.8	14.9	14.9	14.9	14.9	14.9	14.9	14.9	4.3
Domestic demand	9.6	9.8	10.1	10.4	10.7	11	11.3	11.7	12	12.3	12.7	13.1	13.4	13.8	14.2	4.3
Transportation Sector	9.6	9.8	10.1	10.4	10.7	11	11.3	11.7	12	12.3	12.7	13.1	13.4	13.8	14.2	4.3
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	2.2	0.6	2.5	2.2	1.9	1.5	3.2	3.2	2.9	2.5	2.2	1.8	1.4	1	0.6	3.8
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.

TABLE C. 63
JET-FUEL BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	13.5	13.9	14.3	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	18.7	19.2	19.8	20.4	5.2
Production	10.7	11.7	11.7	12	12	12	13.6	13.5	13.6	13.6	13.8	13.9	14	14.1	14.1	3
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	10.7	11.7	11.7	12	12	12	13.6	13.5	13.6	13.6	13.8	13.9	14	14.1	14.1	3
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
De otra regiones	2.8	2.2	2.6	2.7	3.2	3.6	2.5	3.1	3.5	4	4.4	4.8	5.2	5.7	6.3	19.3
Destination	13.5	13.9	14.3	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	18.7	19.2	19.8	20.4	5.2
Domestic demand	13.5	13.9	14.3	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	18.7	19.2	19.8	20.4	5.5
Transportation Sector	13.5	13.9	14.3	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	18.7	19.2	19.8	20.4	5.5
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.



TABLE C. 64
JET-FUEL BALANCE, 2017-2031, CENTRAL REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	21.6	23.9	24.9	24.9	22.5	23.2	23.8	24.4	25	25.7	26.4	27.1	27.8	28.5	29.3	3.1
Production	21.6	23.9	24.9	24.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	0.4
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	21.6	23.9	24.9	24.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9	0.4
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
De otra regiones	-	-	-	-	3.6	4.2	4.9	5.5	6.1	6.8	7.5	8.2	8.9	9.6	10.3	22.5
Destination	21.6	23.9	24.9	24.9	22.5	23.2	23.8	24.4	25	25.7	26.4	27.1	27.8	28.5	29.3	3.1
Domestic demand	19.7	20.2	20.7	21.9	22.5	23.2	23.8	24.4	25	25.7	26.4	27.1	27.8	28.5	29.3	3.4
Transportation Sector	19.7	20.2	20.7	21.9	22.5	23.2	23.8	24.4	25	25.7	26.4	27.1	27.8	28.5	29.3	3.4
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	2	3.8	4.2	3	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.

TABLE C. 65
JET-FUEL BALANCE, 2017-2031, SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	35.2	35.4	34.5	37.2	45.7	48.3	47.3	49.9	52.6	55.5	58.4	61.4	64.5	67.8	71.3	4.1
Production	11	17.5	18.3	18.3	18.3	18.3	18.4	16.5	17.2	30.4	30.4	30.5	30.5	30.5	30.5	5.6
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	1.4	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	13.2	13.2	13.2	13.2	13.2	13.2	NA
New capacity	11	16.2	16.9	16.9	16.9	16.9	16.9	15	15.6	15.6	15.6	15.6	15.6	15.6	15.6	1
Import	24.2	17.9	16.2	18.9	27.4	30	28.9	33.4	35.4	25.1	28	31	34	37.3	40.7	3.1
De otra regiones	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	35.2	35.4	34.5	37.2	45.7	48.3	47.3	49.9	52.6	55.5	58.4	61.4	64.5	67.8	71.3	4.1
Domestic demand	26.6	27	27.8	28.4	29.2	30	30.8	31.7	32.6	33.6	34.7	35.7	36.9	38	39.2	1.3
Transportation Sector	26.6	27	27.8	28.4	29.2	30	30.8	31.7	32.6	33.6	34.7	35.7	36.9	38	39.2	1.3
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	8.6	8.4	6.8	8.7	16.5	18.3	16.5	18.2	19.9	21.9	23.7	25.7	27.7	29.8	32	11
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.



TABLE C. 66
FUEL-OIL DOMESTIC BALANCE 2017-2031
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	201.6	229.6	238.8	239.9	163.1	163.1	120.6	42.9	42.2	45.6	45.5	46.5	49.3	49.3	51.4	-10.2
Production	201.6	229.6	238.8	239.9	163.1	163.1	120.6	38.4	39.4	39.7	40.1	40.4	40.8	41.1	41.1	-10.8
Cadereyta	10.4	1.9	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-11.4
Madero	9	2.7	3.7	3.7	3.7	3.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-4.5
Tula	66.6	73.8	76.8	76.8	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	39.8	43.4	43.4	44.5	44.5	44.5	-	-	-	-	-	-	-	-	-	NA
Minatitlán	12.9	15.4	16.5	16.5	16.5	16.5	17.4	17.8	18.1	18.4	18.8	19.1	19.5	19.8	19.8	6.7
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	63	92.5	96.4	96.4	96.4	96.4	96.4	13.8	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-11.3
Import	-	-	-	-	-	-	-	4.5	2.8	5.8	5.4	6.1	8.6	8.2	10.3	-7
Destination	201.6	229.6	238.8	239.9	163.1	163.1	120.6	42.9	42.2	45.6	45.5	46.5	49.3	49.3	51.4	-10.3
Domestic demand	151.2	125.5	87.7	73.6	65.4	52.9	48.7	42.9	42.2	45.6	45.5	46.5	49.3	49.3	51.4	-6.8
Transportation Sector	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0
Electricity Sector	130.1	101.7	63	50.8	42.5	30.1	25.9	20.1	19.3	22.7	22.7	23.7	26.5	26.5	28.5	-8.8
Industrial Sector	5.8	3.8	1.9	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	14.9	19.6	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	0.8
Export	50.5	104.1	151.1	166.3	97.8	110.2	71.9	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

TABLE C. 67
FUEL-OIL BALANCE 2017-2031, NORTHWEST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	25	21.7	18.2	11.6	11.4	7.7	7.3	7	6.3	9.7	9.6	10.6	13.4	13.4	15.5	-1.3
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	25	21.7	18.2	11.6	11.4	7.7	7.3	7	6.3	9.7	9.6	10.6	13.4	13.4	15.5	0.8
Destination	25	21.7	18.2	11.6	11.4	7.7	7.3	7	6.3	9.7	9.6	10.6	13.4	13.4	15.5	-1.3
Domestic demand	25	21.7	18.2	11.6	11.4	7.7	7.3	7	6.3	9.7	9.6	10.6	13.4	13.4	15.5	-1.3
Transportation Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	24.5	21.4	18.1	11.6	11.4	7.7	7.3	7	6.3	9.7	9.6	10.6	13.4	13.4	15.5	-1.3
Industrial Sector	0.6	0.3	0.1	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.



TABLE C. 68
FUEL-OIL BALANCE 2017-2031, NORTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017- 2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	25.8	23.8	5.7	5.7	5.7	5.7	6.8	6.9	7	7	7	7	7	7	7	-9.7
Production	19.4	4.6	5.7	5.7	5.7	5.7	6.8	6.9	7	7	7	7	7	7	7	-7.6
Cadereyta	10.4	1.9	2	2	2	2	2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	-11.4
Madero	9	2.7	3.7	3.7	3.7	3.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	-4.5
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	6.5	19.2	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	25.8	23.8	5.7	5.7	5.7	5.7	6.8	6.9	7	7	7	7	7	7	7	-9.7
Domestic demand	25.8	23.8	4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	-9.4
Transportation Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	23.2	20.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-24
Industrial Sector	0.4	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	2.3	3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	6.7
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	1.7	1.8	1.8	1.8	2.9	3	3	3	3	3	3	3	3	13.5
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

TABLE C. 69
FUEL-OIL BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MBD)

Concept	Annual Data															AAGR 2017- 2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	39.8	43.4	43.4	44.5	44.5	44.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-13.5
Production	39.8	43.4	43.4	44.5	44.5	44.5	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	39.8	43.4	43.4	44.5	44.5	44.5	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	-	-	-	-	-	-	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-3.5
Destination	39.8	43.4	43.4	44.5	44.5	44.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-13.6
Domestic demand	16.1	15.7	14.6	11.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	-7.5
Transportation Sector	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
Electricity Sector	12.5	12.5	11.6	9.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	-6.4
Industrial Sector	2.4	1.4	0.5	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	1.1	1.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	-1.4
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	23.7	27.7	28.8	33	38	38	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONJEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.



TABLE C. 70
FUEL-OIL BALANCE 2017-2031, CENTRAL REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	66.6	73.8	76.8	76.8	20.6	20.6	16.9	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-11
Production	66.6	73.8	76.8	76.8	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	66.6	73.8	76.8	76.8	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	-	-	-	-	20.6	20.6	16.9	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	NA
Destination	66.6	73.8	76.8	76.8	20.6	20.6	16.9	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-11
Domestic demand	25.5	28.1	27.6	23.7	20.6	20.6	16.9	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	-6.6
Transportation Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Electricity Sector	19.6	19.6	16.5	13.3	10.3	10.3	6.5	1	1	1	1	1	1	1	1	-19.2
Industrial Sector	1.4	1.1	0.7	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	4.6	7.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	5.7
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	41.1	45.7	49.2	53.1	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

TABLE C. 71
FUEL-OIL BALANCE, 2017-2031 SOUTH-SOUTHEAST REGION
(MBD)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	109.2	140.2	174.4	189.2	120.7	124.3	113.8	36	35.2	38.6	38.6	39.5	42.4	42.4	44.4	-6.7
Production	75.8	107.8	112.9	112.9	112.9	112.9	113.8	31.5	32.4	32.8	33.1	33.5	33.8	34.2	34.2	-6.6
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	12.9	15.4	16.5	16.5	16.5	16.5	17.4	17.8	18.1	18.4	18.8	19.1	19.5	19.8	19.8	6.7
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	63	92.5	96.4	96.4	96.4	96.4	96.4	13.8	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-11.3
Import	-	-	-	-	-	-	-	4.5	2.8	5.8	5.4	6.1	8.6	8.2	10.3	-5.3
From other regions	33.3	32.4	61.5	76.3	7.8	11.4	-	-	-	-	-	-	-	-	-	NA
Destination	109.2	140.2	174.4	189.2	120.7	124.3	113.8	36	35.2	38.6	38.6	39.5	42.4	42.4	44.4	-6.8
Domestic demand	58.7	36.2	23.3	22.9	22.9	14.2	14.2	14.1	14.2	14.2	14.2	14.1	14.2	14.2	14.2	-9.1
Transportation Sector	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0
Electricity Sector	50.4	27.7	16.6	16.5	16.6	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	-11.1
Industrial Sector	1	0.7	0.4	-	-	-	-	-	-	-	-	-	-	-	-	NA
Oil Sector	6.9	7.4	6	6	6	6	6	6	6	6	6	6	6	6	6	-3.9
Export	50.5	104.1	151.1	166.3	97.8	110.2	71.9	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	27.7	21.9	21.1	24.5	24.4	25.4	28.2	28.2	30.3	20.6
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.



TABLE C. 72
PETROLEUM COKE DOMESTIC BALANCE, 2017-2031
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	5,699.7	5,990.6	5,886.2	5,916.1	5,981.5	6,049.3	6,416.1	8,133.2	8,212.7	10,098.6	10,133.1	10,189.5	10,189.1	10,216.1	10,216.1	4.2
Production	1,449.6	3,073.9	3,517.7	3,530.2	5,225.7	5,218.6	6,416.1	8,133.2	8,212.7	10,098.6	10,133.1	10,189.5	10,189.1	10,216.1	10,216.1	11
Cadereyta	644.7	1,313.2	1,389.5	1,393.3	1,389.5	1,389.5	1,389.5	1,455.7	1,451.7	1,451.7	1,451.7	1,455.7	1,451.7	1,451.7	1,451.7	5.4
Madero	321.5	772.6	1,065.0	1,070.8	1,067.9	1,060.8	1,395.0	1,398.9	1,400.7	1,400.7	1,400.7	1,404.6	1,400.7	1,400.7	1,400.7	5.4
Tula	-	-	-	-	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	NA
Salamanca	-	-	-	-	-	-	806.2	800.9	802.5	801.3	813.9	822.7	825.9	830.9	830.9	NA
Minatitlán	483.4	988.0	1,063.2	1,066.1	1,063.2	1,063.2	1,120.2	1,145.3	1,164.2	1,186.1	1,208.1	1,233.4	1,252.0	1,274.0	1,274.0	2.7
Salina Cruz	-	-	-	-	-	-	-	-	-	1,865.1	1,865.1	1,870.2	1,865.1	1,865.1	1,865.1	NA
New capacity	-	-	-	-	-	-	-	1,622.6	1,688.5	1,688.5	1,688.5	1,693.1	1,688.5	1,688.5	1,688.5	NA
Import*	4,250.1	2,916.8	2,368.5	2,385.9	755.9	830.7	-	-	-	-	-	-	-	-	-	NA
Destination	5,699.7	5,990.6	5,886.2	5,916.1	5,981.5	6,049.3	6,416.1	8,133.2	8,212.7	10,098.6	10,133.1	10,189.5	10,189.1	10,216.1	10,216.1	4.3
Domestic demand	5,699.7	5,990.6	5,886.2	5,916.1	5,981.5	6,049.3	6,110.7	6,171.4	6,169.3	6,215.5	6,212.2	6,199.0	6,180.4	6,159.6	6,193.3	0.9
Electricity Sector	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1.9
Industrial Sector	4,290.2	4,581.2	4,476.7	4,506.6	4,572.1	4,639.8	4,701.3	4,761.9	4,759.8	4,806.1	4,802.7	4,789.5	4,770.9	4,750.2	4,783.8	0.6
Hydraulic cement	3,819.2	4,102.0	4,010.1	4,042.2	4,095.6	4,151.3	4,201.1	4,250.0	4,242.8	4,278.8	4,270.8	4,253.8	4,232.3	4,208.9	4,234.0	0.6
Industrias de Basic metals	59.7	61.1	59.7	59.6	61.2	62.8	64.4	65.9	66.6	68.0	68.6	69.1	69.6	70.0	71.2	1.4
Chemical, rubber, and plastics	234.9	237.0	229.9	228.1	233.0	238.2	243.3	248.5	250.3	254.6	256.3	257.5	258.3	258.9	262.4	0.7
Machinery and electric appliances	50.7	51.9	50.7	50.7	52.2	53.6	55.0	56.3	56.8	57.9	58.4	58.8	59.0	59.1	60.0	1.6
Glass	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Rest of the industry	125.4	128.9	126.0	125.8	129.7	133.6	137.2	140.9	142.9	146.4	148.2	150.0	151.5	153.0	156.0	1.6
Export	-	-	-	-	-	-	305.4	1,961.7	2,043.4	3,883.0	3,921.0	3,990.5	4,008.7	4,056.4	4,022.8	87.6
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

TABLE C. 73
PETROLEUM-COKE BALANCE 2017-2031, NORTHWEST REGION
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	364	428.4	421.2	464.8	469.6	474.5	478.8	483	480.8	483.5	481.2	478	474.3	470.5	472	2.3
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	364	428.4	421.2	464.8	469.6	474.5	478.8	483	480.8	483.5	481.2	478	474.3	470.5	472	2.3
Destination	364	428.4	421.2	464.8	469.6	474.5	478.8	483	480.8	483.5	481.2	478	474.3	470.5	472	2.3
Domestic demand	364	428.4	421.2	464.8	469.6	474.5	478.8	483	480.8	483.5	481.2	478	474.3	470.5	472	2.3
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	364	428.4	421.2	464.8	469.6	474.5	478.8	483	480.8	483.5	481.2	478	474.3	470.5	472	2.3
Hydraulic cement	362.6	426.9	419.8	463.3	468.1	473	477.3	481.4	479.2	481.9	479.7	476.4	472.7	468.9	470.4	2.3
Industrias de Basic metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Chemical, rubber, and plastics	1.2	1.3	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	0.6
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5
Rest of the industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.



TABLE C. 74
PETROLEUM-COKE BALANCE 2017-2031, NORTHEAST REGION
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	5,216.3	5,002.6	4,823.0	4,850.0	3,213.3	3,281.1	2,784.6	2,854.6	2,852.5	2,852.5	2,852.5	2,860.3	2,852.5	2,852.5	2,852.5	-3.2
Production	966.2	2,085.9	2,454.5	2,464.2	2,457.4	2,450.4	2,784.6	2,854.6	2,852.5	2,852.5	2,852.5	2,860.3	2,852.5	2,852.5	2,852.5	5.4
Cadereyta	644.7	1,313.2	1,389.5	1,393.3	1,389.5	1,389.5	1,389.5	1,455.7	1,451.7	1,451.7	1,451.7	1,455.7	1,451.7	1,451.7	1,451.7	5.4
Madero	321.5	772.6	1,065.0	1,070.8	1,067.9	1,060.8	1,395.0	1,398.9	1,400.7	1,400.7	1,400.7	1,404.6	1,400.7	1,400.7	1,400.7	5.4
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	4,250.1	2,916.8	2,368.5	2,385.9	755.9	830.7	-	-	-	-	-	-	-	-	-	NA
From other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	5,216.3	5,002.6	4,823.0	4,850.0	3,213.3	3,281.1	2,784.6	2,854.6	2,852.5	2,852.5	2,852.5	2,860.3	2,852.5	2,852.5	2,852.5	-3
Domestic demand	674.3	738.8	723.8	724.5	740.3	756.7	772.2	787.8	792.9	805.9	810.7	813.6	815.5	816.8	827.5	1.9
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	674.3	738.8	723.8	724.5	740.3	756.7	772.2	787.8	792.9	805.9	810.7	813.6	815.5	816.8	827.5	1.9
Hydraulic cement	323.4	383.0	377.9	380.4	388.0	395.9	403.3	410.7	412.6	418.7	420.5	421.3	421.6	421.6	426.6	3
Industrias de Basic metals	58.6	60.0	58.6	58.5	60.1	61.7	63.2	64.7	65.4	66.8	67.4	67.9	68.4	68.8	70.0	1.4
Chemical, rubber, and plastics	233.6	235.7	228.6	226.8	231.8	236.9	242.0	247.2	248.9	253.2	254.9	256.1	256.9	257.5	261.0	0.7
Machinery and electric appliances	50.7	51.9	50.7	50.7	52.2	53.6	55.0	56.3	56.8	57.9	58.4	58.8	59.0	59.1	60.0	1.6
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Rest of the industry	8.0	8.2	8.0	8.0	8.2	8.5	8.7	8.9	9.1	9.3	9.4	9.5	9.7	9.8	10.0	1.7
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	4,541.9	4,263.9	4,099.2	4,125.6	2,473.0	2,524.4	2,012.3	2,066.8	2,059.6	2,046.5	2,041.8	2,046.6	2,037.0	2,035.7	2,025.0	-4.3
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

TABLE C. 75
PETROLEUM-COKE BALANCE 2017-2031, CENTRAL-WESTERN REGION
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	2,465.2	2,443.1	2,417.5	2,412.5	2,423.3	2,434.4	2,444.1	2,453.6	2,449.3	2,455.6	2,451.1	2,444.6	2,437.0	2,429.1	2,432.8	0.9
Production	-	-	-	-	-	-	806.2	800.9	802.5	801.3	813.9	822.7	825.9	830.9	830.9	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	806.2	800.9	802.5	801.3	813.9	822.7	825.9	830.9	830.9	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	2,465.2	2,443.1	2,417.5	2,412.5	2,423.3	2,434.4	1,637.9	1,652.7	1,646.8	1,654.3	1,637.3	1,621.9	1,611.1	1,598.2	1,601.9	-1.8
Destination	2,465.2	2,443.1	2,417.5	2,412.5	2,423.3	2,434.4	2,444.1	2,453.6	2,449.3	2,455.6	2,451.1	2,444.6	2,437.0	2,429.1	2,432.8	0.9
Domestic demand	2,465.2	2,443.1	2,417.5	2,412.5	2,423.3	2,434.4	2,444.1	2,453.6	2,449.3	2,455.6	2,451.1	2,444.6	2,437.0	2,429.1	2,432.8	0.9
Electricity Sector	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1,409.5	1.9
Industrial Sector	1,055.7	1,033.6	1,008.0	1,003.0	1,013.8	1,024.9	1,034.6	1,044.1	1,039.8	1,046.1	1,041.7	1,035.1	1,027.5	1,019.6	1,023.3	-0.2
Hydraulic cement	1,048.9	1,026.7	1,001.2	996.2	1,006.8	1,017.7	1,027.2	1,036.5	1,032.0	1,038.2	1,033.6	1,027.0	1,019.3	1,011.3	1,014.8	-0.2
Industrias de Basic metals	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	1.1
Chemical, rubber, and plastics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Rest of the industry	6.5	6.6	6.5	6.5	6.7	6.9	7.1	7.3	7.4	7.6	7.7	7.8	7.9	8.0	8.1	1.7
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.



TABLE C. 76
PETROLEUM-COKE BALANCE 2017-2031, CENTRAL REGION
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	1,604.4	1,771.5	1,735.4	1,734.6	1,762.8	1,792.1	1,818.8	1,845.3	1,847.5	1,868.4	1,870.0	1,867.8	1,863.4	1,858.1	1,874.1	0.9
Production	-	-	-	-	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	NA
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	1,709.7	1,705.1	1,705.1	1,705.1	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salina Cruz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
New capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	1,604.4	1,771.5	1,735.4	1,734.6	57.7	87.0	113.8	135.5	142.4	163.3	164.9	158.0	158.3	153.0	169.1	-14.0
Destination	1,604.4	1,771.5	1,735.4	1,734.6	1,762.8	1,792.1	1,818.8	1,845.3	1,847.5	1,868.4	1,870.0	1,867.8	1,863.4	1,858.1	1,874.1	0.4
Domestic demand	1,604.4	1,771.5	1,735.4	1,734.6	1,762.8	1,792.1	1,818.8	1,845.3	1,847.5	1,868.4	1,870.0	1,867.8	1,863.4	1,858.1	1,874.1	0.4
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	1,604.4	1,771.5	1,735.4	1,734.6	1,762.8	1,792.1	1,818.8	1,845.3	1,847.5	1,868.4	1,870.0	1,867.8	1,863.4	1,858.1	1,874.1	0.4
Hydraulic cement	1,493.4	1,657.4	1,623.8	1,623.2	1,648.0	1,673.8	1,697.3	1,720.5	1,721.0	1,738.8	1,738.9	1,735.1	1,729.4	1,722.8	1,736.1	0.3
Industrias de Basic metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Chemical, rubber, and plastics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Rest of the industry	111.0	114.0	111.5	111.3	114.8	118.2	121.4	124.7	126.4	129.5	131.1	132.6	133.9	135.2	137.9	1.6
Export	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
To other regions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

TABLE C. 77
PETROLEUM-COKE BALANCE 2017-2031, SOUTH-SOUTHEAST REGION
(MTA)

Concept	Annual Data															AAGR 2017-2031
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Origin	591.7	988.0	1063.2	1066.1	1063.2	1063.2	1120.2	2768.0	2852.7	4739.8	4761.7	4796.8	4805.7	4827.6	4827.6	11.9
Production	483.4	988.0	1063.2	1066.1	1063.2	1063.2	1120.2	2768.0	2852.7	4739.8	4761.7	4796.8	4805.7	4827.6	4827.6	12.3
Cadereyta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Madero	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Tula	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Salamanca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Minatitlán	483.4	988.0	1063.2	1066.1	1063.2	1063.2	1120.2	1145.3	1164.2	1186.1	1208.1	1233.4	1252.0	1274.0	1274.0	2.7
Salina Cruz	-	-	-	-	-	-	-	-	-	1865.1	1865.1	1870.2	1865.1	1865.1	1865.1	NA
New capacity	-	-	-	-	-	-	-	1622.6	1688.5	1688.5	1688.5	1693.1	1688.5	1688.5	1688.5	NA
Import*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
From other regions	108.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Destination	591.7	988.0	1063.2	1066.1	1063.2	1063.2	1120.2	2768.0	2852.7	4739.8	4761.7	4796.8	4805.7	4827.6	4827.6	12.8
Domestic demand	591.7	608.8	588.2	579.8	585.6	591.6	596.8	601.8	598.9	602.1	599.1	594.9	590.2	585.2	587.0	0.1
Electricity Sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Industrial Sector	591.7	608.8	588.2	579.8	585.6	591.6	596.8	601.8	598.9	602.1	599.1	594.9	590.2	585.2	587.0	0.1
Hydraulic cement	590.9	608.0	587.4	579.0	584.8	590.8	595.9	600.9	598.0	601.2	598.2	594.0	589.2	584.3	586.0	0.1
Industrias de Basic metals	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.0
Chemical, rubber, and plastics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Machinery and electric appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA
Rest of the industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Export	-	-	-	-	-	-	305.4	1961.7	2043.4	3883.0	3921.0	3990.5	4008.7	4056.4	4022.8	127.9
To other regions	-	379.2	474.9	486.2	477.5	471.5	218.1	204.4	210.4	254.6	241.7	211.3	206.8	186.0	217.9	0.3
Inventories variation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NA

NA Not applicable.

* Includes PEMEX and private parties.

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.



TABLE C. 78
GASOLINES DOMESTIC DEMAND BY STATE, 2017-2031
(MBD)

State	Annual Data														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	829.6	847.1	860.6	872.7	886.4	906.3	921.6	935.2	950.4	963.0	974.9	982.1	992.2	1000.5	1008.6
Aguascalientes	11.6	10.6	10.7	10.7	10.8	10.9	11.0	11.2	11.4	11.5	11.7	11.7	11.8	11.9	12.1
Baja California	41.0	41.9	42.7	43.2	43.8	44.6	45.3	45.7	46.0	46.2	46.4	46.4	46.5	46.6	46.8
Baja California Sur	9.3	9.6	9.8	9.9	10.0	10.2	10.4	10.5	10.6	10.7	10.7	10.7	10.7	10.8	10.8
Campeche	5.8	6.0	6.1	6.2	6.3	6.6	6.8	7.0	7.2	7.5	7.7	7.9	8.1	8.3	8.4
Chiapas	17.8	18.4	18.8	19.3	19.6	20.0	20.3	20.4	20.5	20.7	20.9	20.9	21.0	21.2	21.3
Chihuahua	22.8	24.3	25.6	26.8	27.9	29.3	30.3	31.6	33.0	34.2	35.2	36.1	37.0	37.8	38.8
Coahuila	16.7	17.0	17.2	17.4	17.7	18.4	19.0	19.4	19.9	20.5	21.1	21.5	22.1	22.5	22.9
Colima	35.3	36.4	37.0	37.8	38.3	39.1	39.4	39.6	39.8	40.0	40.4	40.4	40.5	40.8	40.9
Ciudad de México	103.8	105.9	107.8	108.7	110.4	111.9	113.0	113.6	113.7	113.5	113.8	113.4	112.9	112.0	110.7
Durango	20.4	21.1	21.4	21.9	22.2	22.7	22.9	23.0	23.2	23.3	23.5	23.5	23.6	23.8	23.9
Guanajuato	37.4	38.6	39.1	39.6	39.9	40.7	41.1	41.8	42.7	43.4	44.0	44.3	44.8	45.3	45.9
Guerrero	14.4	14.6	14.8	14.9	15.2	15.8	16.2	16.5	17.0	17.5	17.9	18.3	18.8	19.1	19.5
Hidalgo	29.6	27.4	28.1	28.4	29.3	30.1	31.1	32.2	33.4	34.2	34.7	35.4	35.9	36.5	37.2
Jalisco	41.0	44.1	44.3	44.5	44.6	45.2	45.4	46.0	46.8	47.4	47.9	48.1	48.5	48.8	49.4
México	53.8	56.5	57.0	57.6	58.6	59.5	60.3	60.7	60.9	60.9	61.1	61.0	60.9	60.5	59.8
Michoacán	29.1	29.6	30.0	30.3	30.5	31.1	31.4	31.9	32.5	33.1	33.5	33.7	34.1	34.4	34.8
Morelos	15.1	15.0	15.3	15.4	15.8	16.1	16.6	17.2	17.7	18.1	18.3	18.7	18.9	19.2	19.6
Nayarit	4.6	4.7	4.8	4.9	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.5	5.6	5.7	5.7
Nuevo León	50.0	51.0	51.3	51.5	51.7	51.9	52.2	52.7	52.8	53.1	53.7	53.9	54.5	55.2	55.7
Oaxaca	14.9	15.2	15.3	15.5	15.8	16.4	16.9	17.3	17.8	18.3	18.8	19.2	19.7	20.1	20.5
Puebla	30.0	30.1	30.8	31.2	32.1	33.0	34.0	35.3	36.6	37.5	38.0	38.8	39.3	39.9	40.7
Querétaro	18.9	17.3	17.5	17.7	17.9	18.2	18.4	18.7	19.1	19.4	19.6	19.8	20.0	20.2	20.4
San Luis Potosí	16.1	16.6	16.9	17.2	17.4	17.8	18.1	18.4	18.9	19.3	19.6	19.8	20.0	20.3	20.6
Sinaloa	30.9	31.8	32.5	33.0	33.5	34.2	34.7	35.0	35.3	35.5	35.6	35.5	35.6	35.6	35.7
Sonora	26.4	27.3	28.0	28.6	29.2	29.9	30.6	31.0	31.3	31.6	31.8	31.9	32.1	32.3	32.5
Tabasco	8.9	9.1	9.2	9.3	9.6	9.9	10.3	10.5	10.8	11.2	11.5	11.7	12.1	12.3	12.6
Tamaulipas	37.4	38.6	39.2	40.1	40.5	41.3	41.7	41.8	42.0	42.1	42.5	42.4	42.5	42.8	42.8
Veracruz	52.5	53.6	54.1	54.7	55.6	57.6	59.2	60.2	61.7	63.3	64.8	65.9	67.5	68.6	69.7
Yucatán	28.5	29.4	30.0	30.6	31.5	32.9	34.2	35.1	36.3	37.6	38.7	39.7	40.9	41.9	42.7
Zacatecas	5.5	5.5	5.6	5.6	5.6	5.7	5.7	5.8	5.9	6.0	6.1	6.1	6.1	6.2	6.3

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CONUEE, CRE, EIA, EPA, INEGI, PEMEX, SENER and private companies.

TABLE C. 79
DOMESTIC DEMAND DE DIESEL BY STATE, 2017-2031
(MBD)

State	Annual Data														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	413.7	421.3	433.3	445.1	456.8	466.4	478.1	484.5	494.6	504.1	514.1	522	529.6	537.8	545.1
Aguascalientes	4.7	4.3	4.4	4.5	4.6	4.6	4.7	4.8	4.8	4.9	5	5.1	5.2	5.4	5.5
Baja California	13.3	13.6	13.7	14	14.3	14.6	14.9	14.8	14.9	15	15	15	15.1	15.1	15.2
Baja California Sur	5.7	5.8	5.9	8.6	7.5	7.8	9.6	8	8.5	8.2	8.3	7.9	7.6	7.8	8
Campeche	8.9	11.1	13.6	14	14.4	14	13.7	13.8	13.9	13.9	14	14.1	14.1	14.2	14.3
Coahuila	4.9	5.1	5.3	5.6	5.9	6.2	6.6	6.8	7.1	7.4	7.7	7.9	8.2	8.4	8.7
Colima	19.5	18.2	18.1	18.8	20.2	20.9	21.3	21.6	22.1	22.5	22.8	23.1	23	22.9	23.2
Chiapas	11.9	12	12.2	12.6	13.4	13.9	14.2	14.5	14.9	15.3	15.6	15.9	16.1	16.3	16.5
Chihuahua	15.6	15.9	16.3	16.7	17.1	17.4	17.7	18.1	18.4	18.8	19.3	19.7	20.1	20.6	21
Ciudad de México	26.7	27.4	28	28.5	29.2	30.1	30.9	31.3	31.6	32.1	32.5	32.9	33.5	33.8	33.8
Durango	11.9	12.1	12.5	12.8	13.4	13.8	14.1	14.4	14.8	15.2	15.4	15.7	16	16.3	16.6
Guanajuato	19.7	20.5	21.1	21.7	22.3	22.7	23.1	23.7	24.1	24.7	25.4	25.9	26.5	27.2	27.8
Guerrero	3.8	3.9	4.1	4.3	4.6	4.9	5.2	5.4	5.6	5.8	6	6.2	6.4	6.6	6.8
Hidalgo	17.4	16.7	17	17.2	17.8	18.4	18.8	19.2	19.8	20.2	20.6	21	21.3	21.6	21.9
Jalisco	17.9	19	19.4	19.7	20	20.1	20.3	20.6	20.8	21.2	21.7	22	22.4	22.9	23.3
México	18.1	19.7	20.3	20.8	21.5	22.4	23.1	23.6	24.1	24.6	25.1	25.6	26.2	26.6	26.8
Michoacán	13.6	13.9	14.4	14.9	15.3	15.6	15.9	16.3	16.6	17.1	17.6	18	18.4	18.9	19.3
Morelos	4.2	4.2	4.2	4.3	4.5	4.7	4.8	4.8	5	5.1	5.2	5.3	5.3	5.3	5.4
Nayarit	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2	2	2.1	2.1	2.2	2.2	2.3
Nuevo León	27.9	28	28.4	29	29.7	30.3	30.7	31.1	31.3	31.6	31.8	31.9	32.1	32.3	32.4
Oaxaca	5.9	6	6.2	6.3	6.6	6.9	7.1	7.3	7.5	7.8	8	8.2	8.3	8.5	8.7
Puebla	11.4	11.5	11.7	11.8	12.2	12.6	12.9	13.1	13.5	13.9	14.1	14.4	14.6	14.8	15
Querétaro	9.3	8.5	8.8	9	9.2	9.4	9.5	9.7	9.9	10.1	10.4	10.6	10.8	11.1	11.3
Quintana Roo	5.2	4.5	3.8	3.2	2.3	0.8	0.8	0.6	0.6	0.7	0.7	0.7	0.3	0.1	0.1
San Luis Potosí	10.1	10.3	10.5	10.8	11.1	11.2	11.4	11.7	11.8	12.1	12.4	12.6	12.9	13.2	13.2
Sinaloa	22.8	22.7	23.1	23.6	24.2	24.5	24.8	25	25.3	25.5	25.7	25.9	26.1	26.2	26.4
Sonora	22	22.3	22.8	23.4	24.2	24.6	25.2	25.4	25.9	26.1	26.3	26.6	26.9	27.1	27.3
Tabasco	2.7	2.9	3	3.2	3.4	3.7	3.9	4.1	4.3	4.5	4.7	4.8	5	5.2	5.4
Tamaulipas	23.1	23.5	24.2	24.7	25.7	26.4	27	27.4	28.1	28.7	29.1	29.5	30	30.4	30.8
Tlaxcala	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Veracruz	35.4	37.5	40.1	41.2	42.7	44.7	46.3	47.5	48.8	50.2	51.7	52.9	53.9	55.2	56.5
Yucatán	15.2	14.7	14.8	14.4	14.2	13.2	13.8	14.2	14.7	15.1	15.7	16.1	16.5	16.9	17.4
Zacateas	3.6	3.6	3.7	3.8	3.8	3.9	3.9	4	4	4.1	4.2	4.2	4.3	4.4	4.5

Source: Elaborated by IMP, based on AMDA, AMIA, ANPACT, BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SCT, SENER and private companies.



TABLE C. 80
FUEL-OIL DOMESTIC DEMAND BY STATE, 2017-2031
(MBD)

State	Annual Data														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	151.2	125.5	87.7	73.6	65.4	52.9	48.7	42.9	42.2	45.6	45.5	46.5	49.3	49.3	51.4
Aguascalientes	0.1	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Baja California	0.1	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Baja California Sur	12	12.3	12.4	7.4	7.2	7.2	6.7	6.5	5.7	9.1	9	10.1	12.9	12.9	14.9
Campeche	7.1	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Chiapas	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Chihuahua	2.6	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Coahuila	0.1	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Colima	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ciudad de México	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Durango	5.3	5.2	0	-	-	-	-	-	-	-	-	-	-	-	-
Guanajuato	1.6	2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Guerrero	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
Hidalgo	23.7	26.5	26.2	22.7	19.7	19.7	15.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Jalisco	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
México	0.3	0.2	0.1	0	0	0	0	0	0	0	0	0	0	0	0
Michoacán	1.2	1	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Morelos	0.9	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Nayarit	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nuevo León	2.2	2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Oaxaca	8.3	8.2	6.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Puebla	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Querétaro	0.1	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Quintana Roo	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
San Luis Potosí	11	11	10.1	7.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Sinaloa	12.6	9.2	5.7	4.2	4.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Sonora	0.2	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Tabasco	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Tamaulipas	15.7	16.5	2.1	2	2	2	2	2	2	2	2	2	2	2	2
Tlaxcala	0.1	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Veracruz	28.6	17.9	7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Yucatán	13.4	8.8	8.8	8.7	8.8	-	-	-	-	-	-	-	-	-	-
Zacatecas	0.2	0.1	0	-	-	-	-	-	-	-	-	-	-	-	-
Zacatecas	-	0.2	0.1	0.0	-	-	-	-	-	-	-	-	-	-	-

Source: Elaborated by IMP, based on information from BANXICO, CFE, CNIAA, CONAGUA, CONUEE, CRE, EIA, EPA, IEA, INE, INEGI, PEMEX, SE, SEMARNAT, SENER and private companies.

TABLE C. 81
PETROLEUM-COKE DOMESTIC DEMAND, 2017-2031
(MTA)

State	Annual Data														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	5,699.7	5,990.6	5,886.2	5,916.1	5,981.5	6,049.3	6,110.7	6,171.4	6,169.3	6,215.5	6,212.2	6,199.0	6,180.4	6,159.6	6,193.3
Northwest	364.0	428.4	421.2	464.8	469.6	474.5	478.8	483.0	480.8	483.5	481.2	478.0	474.3	470.5	472.0
Northeast	674.3	738.8	723.8	724.5	740.3	756.7	772.2	787.8	792.9	805.9	810.7	813.6	815.5	816.8	827.5
Central-Western	2,465.2	2,443.1	2,417.5	2,412.5	2,423.3	2,434.4	2,444.1	2,453.6	2,449.3	2,455.6	2,451.1	2,444.6	2,437.0	2,429.1	2,432.8
Central	1,604.4	1,771.5	1,735.4	1,734.6	1,762.8	1,792.1	1,818.8	1,845.3	1,847.5	1,868.4	1,870.0	1,867.8	1,863.4	1,858.1	1,874.1
South-Southeast	591.7	608.8	588.2	579.8	585.6	591.6	596.8	601.8	598.9	602.1	599.1	594.9	590.2	585.2	587.0

Source: Elaborated by IMP, based on CFE, CNIC, EIA, IEA, INEGI, PEMEX, SE, SENER and private companies.

TABLE C. 82
NATIONAL JET-FUEL DOMESTIC DEMAND BY STATE, 2017-2031
(MBD)

State	Annual Data														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	79.3	81.5	83.7	86.7	89.2	91.8	94.4	97.2	99.9	102.9	106	109.1	112.3	115.7	119.1
Baja California	4	4.3	4.4	4.5	4.7	4.8	5	5.2	5.3	5.5	5.7	5.9	6.1	6.3	6.5
Baja California Sur	2.6	2.7	2.8	2.9	3	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.9	4	4.1
Ciudad de México	17.4	17.9	18.3	19.4	20	20.5	21.1	21.6	22.2	22.8	23.4	24	24.6	25.3	25.9
Guanajuato	13.5	13.9	14.3	14.7	15.2	15.6	16.1	16.6	17.1	17.6	18.1	18.7	19.2	19.8	20.4
Guerrero	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Hidalgo	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.9	2.9	3	3.1	3.2	3.3	3.3
Nuevo León	2.7	2.8	2.8	2.9	3	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4
Oaxaca	5.2	5.3	5.4	5.6	5.7	5.9	6	6.2	6.4	6.6	6.8	7	7.2	7.5	7.7
Sonora	3.4	3.6	3.7	3.8	3.9	4	4.2	4.3	4.4	4.6	4.7	4.9	5.1	5.2	5.4
Tamaulipas	6.9	7.1	7.2	7.4	7.7	7.9	8.1	8.4	8.6	8.9	9.1	9.4	9.7	9.9	10.2
Veracruz	11	11.2	11.5	11.7	12.1	12.4	12.7	13.1	13.5	13.9	14.3	14.7	15.2	15.7	16.2
Yucatán	10.2	10.4	10.6	10.9	11.2	11.5	11.8	12.1	12.5	12.9	13.3	13.7	14.1	14.6	15

Source: Elaborated by IMP, based on information from ASA, BANXICO, INEGI, PEMEX, SCT and SENER.



GLOSSARY

Additions	Increase on the reserve as a result of exploratory activity. It is integrated by the discoveries and delineations of a field during the period of study.
Alkane	Product obtained by the reaction of alkylation, generally of isobutane with butylene, to form branched hydrocarbons, mainly iso-octane and other octane's isomers, with an octane number of about 94, being thus very appreciated for preparing high octane gasoline.
Alkylation	Alkylation processes comprise the combination of an olefin with a paraffin or aromatic hydrocarbon in a catalyzer. In refining, this process involves the union of propylene or butylene, mainly in catalytic disintegration plants, as well as in hydro disintegration, viscosity reducing, and coking plants; with isobutane using hydrofluoric or sulfuric acid as a catalyzer, and thus form an isoparaffin called light alkane. The latter is basically composed by iso-heptane or iso-octane, according to the load that has been used, which are excellent products for elaborating high-octane gasolines due to their low steam pressure and high-octane number. This process is considered as opposite to disintegration, since from its small molecules can produce bigger molecules.
API Density	<p>Indirect measure of the density of liquid products used within the oil industry; it is derived from relative density according to the following equation:</p> $\text{API density} = (141.5 / \text{relative density}) - 131.5$ <p>This equation is used for liquids less dense than water. API density is expressed in degrees; a relative density of 1.0 is equal to 10 API degrees.</p>
Aromatic	Family of hydrocarbons containing in its molecule one or several nuclei of six-carbon-atoms rings and hexagonal shape, possessing in its structure three double bonds (benzenic rings).
Associated natural gas	Natural gas in a contact with crude oil within an oil reservoir. It can be balanced with this crude oil or dissolved in the crude oil under the reservoir's temperature and pressure conditions. Free gas in contact with crude oil forms what is known as gas cap.
Atmospheric distillation	First stage on crude oil distillation; of oil is sent to the atmospheric distillation unit after desalting and heating. The purpose of atmospheric distillation is primary separation of various 'cuts' of hydrocarbons namely, fuel gases, LPG, naphtha, kerosene, diesel and fuel oil. The heavy hydrocarbon residue left at the bottom of the atmospheric distillation column is sent to vacuum distillation column for further separation of hydrocarbons under reduced pressure.
Atmospheric residue	Product obtained from the bottom of the cracking towers in the primary distillation after the extraction of gasolines, kerosenes, and primary gasoils.

Catalytic Plant (FCC)	Plant used for producing mostly high-octane stabilized gasoline (59% in volume), residual gas added to the gas-fuel used in the refinery, propane-propylene, butane-butylene, light cyclic oil, and heavy cyclic oil, having as load primary heavy gasoil and the gasoils from the vacuum plant.
Coking	Refining process for producing light and intermediate distillates through the thermal cracking of high-molecular weight; petroleum coke is obtained as a sub product of this process.
Combustion	Chemical change or phenomenon in which materials are quickly combined with oxygen and which produce light and heat. It is also known as quick oxidation.
Condensates	Liquid hydrocarbons in natural gas recovered in the separation facilities of fields producing associated and non-associated gas, generally pentanes and heavier compounds Include liquid hydrocarbons recovered from gas pipelines, which are formed through condensation during the NG transportation.
Condensates recovery factor (crf)	Factor used to obtain liquid fractions which are recovered from NG in distribution and transportation ground facilities. It is obtained from the statistics on the operation of gas and condensate handling of the last annual period in the area corresponding to the area of study.
Crude oil	<p>It does not include the production of condensates and NG liquids from liquefiable extraction plants. In Mexico, there are three varieties of crude oil which are prepared for the exports market:</p> <p>MAYA: Heavy crude oil with a density of 22°API and a maximum of 3.3% sulfur weight.</p> <p>ISTMO: Light crude oil with a density of 33.6°API and a maximum of 1.3% sulfur weight.</p> <p>OLMECA: Ultra-light crude oil with a density of 39.3°API and a maximum of 0.8% sulfur weight.</p>
Crude oil topping	Distillation process that separates lighter compounds such as naphtha and kerosene. Naphtha is extracted and subjected to other processes such as manufacturing petrochemical products or to be treated for obtaining gasoline. Kerosene is separated to produce lineal paraffins, raw material for manufacturing biodegradable detergents. The remaining residue is called topped crude oil.
Density	Matter intensive property related to the mass of a substance and its volume through the coefficient of these two amounts. It is expressed in kilogram per cubic meter (international system), in grams per cubic centimeter (metric system), or in pounds per gallon (English system).
Development	Activity which increases or decreases the number of reserves through drilling exploitation wells.
Development wells	Wells drilled in a producing field for producing hydrocarbons; it includes injection wells for secondary recovery.



Diesel	<p>Fuel derived from the distillation of crude oil. It is obtained from a complex blend of paraffin, olefine, naphthene, and aromatic hydrocarbons, through the processing of oil. It is an oil-like smell, insoluble in water with a light-yellow color. It is mainly consumed in highly-efficient internal combustion machines, with high performance. It is mainly used in diesel-fueled vehicle fleet such as light and heavy service lorries, passengers' buses, locomotives, vessels, agricultural machines, industrial machines, and construction machines. Its main properties are:</p> <p>Boiling point (rank) at 760 mm Hg: 216-371 °C Steam pressure: 30 mm Hg @ 20 °C Steam density (Air=1): 4 Specific gravity (20/40 °C): 0.850 Flash point: 41 ° minimum Cetane index: 45 minimum Cinematic viscosity to 40 °C: 1.9 to 4.1 centistokes Sulfur total weight percentage: 0.5 maximum Flammability limit in air, volume %: low 0.7%, superior 5%.</p>
Discovered resource	Volume of hydrocarbons which have become evident through drilled wells.
Discovery	Incorporation or reserves attributable to the drilling of exploratory wells proving hydrocarbons producing formations.
Disintegration (cracking)	Process consisting on the decomposition of the biggest and heaviest molecules of hydrocarbons into lighter and simpler ones Disintegration is carried out by applying heat and pressure and, in more advanced techniques, by the use of catalyzers. The use of this process enables the increase of gasoline and other products yields like dry gas, propane, propylene, butane-butylene, gasolines, cyclic and decant oils, etc.), which are variously used in the oil industry. The most common kind of disintegration units are catalytic cracking, hydrocracking, residual cracking (coking), thermal cracking, visbreaking, and steam cracking.
Distillate	Distillation product coming from the steaming and subsequent condensation of a blend of miscible substances, into individual, groups of, or fractions of compounds lighter than the original blend
Dry natural gas	NG containing meaningful amounts of hydrocarbons heavier than methane. It is obtained from NG processing centers.
Economic reserves	Volume of hydrocarbons at atmospheric conditions which are expected to be recovered from the specific date in which the reserve is determined, until the end of the reservoir's exploitation, using the exploitation methods and systems economically applicable to that date.
Energy	Capacity for producing work.
Enhanced oil recovery (EOR)	Oil recovery through the injection of materials which are not generally found in the reservoir and which modify the dynamic behavior of the resident fluids. Enhanced recovery is not constrained to a particular life stage of the well (primary, secondary, or tertiary).
Equipment under operation	Average per day, in a given period (month or year), of the number of equipment used in the drilling of wells or related activities, such as dismantling, transportation, or maintenance.

Equivalent oil	Total of crude oil, condensates, plants liquids, and dry NG expressed in equivalent units of oil.
Stimulation	Process of acidification or fracking carried out to widen the existing pipes or create new ones in the productive formation of a well.
Exploratory wells	Wells drilled for obtaining detailed information of the characteristics of a reservoir to determine if it contains hydrocarbons economically recoverable. Includes stratigraphic test wells.
Extra-heavy crude oil	Crude oil with relatively high fractions of heavy components, high specific density (low API density) and high viscosity. This crude's production presents difficulties due to its extraction and high costs.
Fossil fuels	Blend of organic compounds extracted from the subsoil for producing energy through combustion. Coal, oil, as well as the NG coming from living organisms fossilized by geological phenomena are considered fossil fuels.
Fracking	Process through which small fractions are separated from a hydrocarbons' blend by distillation.
Fuel	Material that, when combined with oxygen, it ignites producing heat. A substance able to produce energy through non-oxidation processes (such as a chemical reaction), including fissionable and fusionable materials.
Gasoil	<p>Product refined from oil whose density is higher than the one from gasolines and kerosenes, but lower than residuals'. It generally comprises hydrocarbons distilled between 190 and 370 °C whose specific weights (20/4 °C) range between 0.820 and 0.890. This blend has two main uses:</p> <p>Fuel for small diesel-fueled machines Fuel for ovens and heaters, from where it acquires its popular names, diesel and oil for ovens.</p>
Gasoline	Commercial term used to commercially name the lightest products for oil distillation. From the distillation process, gasoline is the first cut which is obtained. It is a volatile blend of liquid hydrocarbons and small amounts of additives, suitable to be used as a fuel in internal combustion engines with electric ignition, and a distillation range of 27 to 225 °C. Due to its volume and value in the market it is undoubtedly the most important oil product. The different degrees of gasolines are mainly referred to their octane number and to their steam of water, which are fixed according to the relation of the engines compression and the geographical zone in which they are sold.
Heavy crude oil	Crude oil whose density is below or equal to 27°API.



Heavy fuel oil	<p>Viscous dark liquid with a characteristic tar-like smell, with a complex composition of heavy hydrocarbons, obtained from the blend of vacuum residual currents, heavy oil, and light oil from the catalytic disintegration. As this kind of chemical compound, it is insoluble to water. This product is one of the main fuels used in the industry for generating steam and electricity (intensive use, mostly, like CFE, sugar mill industry, cement industry, etc.). Other significant characteristics are:</p> <p>Boiling point (rank) at 760 mm Hg: 315-545 °C Steam density (Air=1): 20 Volatility Percentage: Low Flash point: 66 ° minimum Pour point: 15 °C maximum Sulfur weight percentage: 4.0 maximum Flammability limit in air, volume %: low 1%, superior 5%.</p>
H-Oil Plant (hydrodesulfurization of residuals)	<p>Plant used in oil refining for processing hydrocarbons with a high molecular weight (vacuum residuals, etc.). An H-Oil unit is intended to elaborate low-molecular-weight products and low boiling points, with reduced sulfur levels, with good profits.</p>
Hydrocarbons	<p>Family of chemical compounds mainly formed by carbon and hydrogen. In a smaller extent, it can contain other elements like oxygen, nitrogen, sulfur, halogens (chlorine, bromine, iodine, and fluorine), phosphorous, among others. Its physical state, under environmental conditions, can be in form of gas, liquid, or solid, according to the number of carbon atoms and the other elements it may contain.</p>
Hydrocarbons reserves	<p>Volume of hydrocarbons measured at atmospheric conditions, which will be economically produced through any exploitation method or system applicable to the assessment date.</p>
Hydrodesulfurization	<p>Process through which sulfur is eliminated from hydrocarbons such as gasoline, jet fuel, diesel, lubricants, and residuals. Hydrodesulfurization is carried out in a reactor under pressure and temperature conditions, hydrogen, and a catalyzer that speeds up the reaction to eliminate the sulfur from the hydrocarbons than come into the reactor. Catalyzers have a base of nickel- and cobalt-molybdenum.</p>
Hydrotreatment	<p>Process whose aim is to catalytically stabilize hydrocarbons, besides eliminating their polluting components, by making them react with hydrogen at temperatures ranging from 315 and 430 °C and pressures which vary from 7 to 120 kg/cm², and using catalysts like nickel-oxide or nickel-thiomolybdate, tungsten- and nickel-sulfurs and vanadium oxide. Among the reactions, stabilization ones comprise the conversion of unsaturated hydrocarbons like olefines, low-stability diolefines which are gum forming precursors, in saturated compounds by hydrogenation or disintegration.</p>
Intermediate distillate	<p>Fraction of crude oil or hydrocarbons which are distilled between 175 °C and 330 °C, and which correspond to a fraction of naphtha, kerosene, and diesel fuel; the last two products are used in some countries as fuels for air conditioning.</p>

Intermediate fuel oil 15 (IFO 15)

Liquid with a complex composition of heavy hydrocarbons, obtained from the blend of vacuum residual currents, heavy oil, and light oil from the catalytic disintegration. It is a dark substance, viscous, with a tar-like smell, and insoluble to water. Other main characteristics are:

Boiling point (rank) at 760 mm Hg: 315-545 °C

Steam density (Air=1): 20

Volatility Percentage: Low

Specific gravity (20/4 °C): 0.9877 maximum

Flash point: 66 ° minimum

Pour point: 30 °C maximum

Sulfur weight percentage: 4.0 maximum

Isomerization

Process which alters the arrangement of atoms in a molecule without adding or subtracting anything from the original molecule. For instance, butane is isomerized into isobutane to be used in the alkylation of isobutylene and other olefines for producing high-octane hydrocarbons.

Istmo crude oil

Light Mexican crude oil with an API gravity of 33 to 34° API. Its main characteristics are:

Specific weight (20/4 °C): 0.858

Viscosity, SSU to 15.6 °C: 60

Sulfur content (%): 1.3

Metals, vanadium: 39.5

Gasoline: 26.0

Intermediate distillates: 32.0

Gas oils: 18.0

Residual: 23.0

Jet fuel

Fuel used for aircrafts; it is an oil derivative similar to kerosene, clear to straw-colored fuel, with an oil-fuel smell, insoluble in water. It is also known as aviation turbine fuel. Important properties:

Boiling point (rank) at 760 mm Hg: 149-300 °C

Steam pressure: 30 mm Hg @ 20 °C

Specific gravity (20/40 °C): 0.810

Flash point: 38 ° minimum

Freezing point: -47 °C maximum

Flammability limit in air, volume %: low 0.6%, superior 3.7%.

Light crude oil

Crude oil whose density is higher than 27° API, but below or equal to 38°.



Low-sulfur fuel oil	<p>Liquid with a complex composition of heavy hydrocarbons, obtained from the blend of vacuum residual currents, heavy oil, and light oil from the catalytic disintegration. It is a dark substance, viscous, with a tar-like smell, and insoluble to water. Other main characteristics are:</p> <p>Boiling point (rank) at 760 mm Hg: 315-545 °C Steam density (Air=1): 20 Volatility Percentage: Low Specific gravity (20/4 °C): 1.02 maximum Flash point: 60° minimum Pour point: + 15 °C maximum Sulfur weight percentage: 2.0 maximum</p>
LP Gas (LPG)	<p>In the oil industry, it refers to the blend of propane and butane compressed and liquefied. It can come from NG and gasoline liquids from crude oil refining processes.</p>
Maya crude oil	<p>Heavy Mexican crude oil produced mainly in the sea. Its API gravity is of 21.4 to 22.3 °API. Its main characteristics are:</p> <p>Specific weight (20/4 °C): 0.920 Viscosity, SSU to 15.6 °C: 1288 Sulfur content (%): 3.3 Metals, vanadium: 343.0 Gasoline: 17.0 Intermediate distillates: 28.0 Gasoils: 16.0 Residual: 38.0</p>
Natural gas (NG)	<p>Blend of light paraffin hydrocarbons with methane as their main constituent. Additionally, it may contain ethane, propane, and other heavier paraffin hydrocarbons in decreasing proportions, as well as variable proportions of nitrogen, carbon dioxide, sulfuric acid, and water steam. NG can be found associated with crude oil or alone in non-associated gas wells.</p>
Natural gasoline	<p>Gasoline found in form of dew within NG and which, as other condensates recovered from NG through cooling or compression. It is a liquid similar to gasoline but lighter, more volatile and unstable, due to its smaller molecular weight and that it contains pentane, butane, and propane steams dissolved; it also has low octane, so it is generally subjected to cracking, reforming, or isomerization processes, before being blended as a gasoline component.</p>
Non-associated gas	<p>NG located in oil-free reservoirs.</p>
Non-discovered resource	<p>Volume of hydrocarbons under uncertainty, but whose existence is inferred within geological basins through favorable factors resulting from geological, geophysical, and geochemical interpretation. If it is economically viable it is called prospective resource.</p>
Oil	<p>Greasy liquid, immiscible in water. It could be from vegetal, animal, or mineral origin. Within the group of mineral oils there is the crude oil (petroleum) which is a complex blend of various chemical components.</p>
Oil barrel	<p>Unit of volume based on the measure of the barrel used in the oil industry. It is equal to 158.9873 liters (42 USA gallons).</p>

Oil original volume	Amount of oil estimated to originally exist in the reservoir, and which is confined by geological and fluid limits, and which can be expressed to reservoir conditions as well as to ground conditions.
Oil product(s)	Products obtained through oil refining. These can be finished products (gasoline, diesel, liquefied gas, etc.), semi-finished, or subproducts (naphthas).
Oil reservoir	Any geological or porous stratum which contains or may contain any of the hydrocarbons from the oil group. Reservoirs can be classified according to the type and amount of fluid they contain (gas, oil, or blends).
Oil tanker	Generalized name to design vessels that transport oil or its derivatives, though nowadays the term is also used to design a vessel that transport bulk liquids.
Olmeca crude oil	Blend of ultra-light crude oils produced in the Mesozoic region of Chiapas and Tabasco, with an API gravity of 39.3 °API or higher. Its main characteristics are: Specific weight (20/4 °C): 0.825 Viscosity, SSU to 15.6 °C: 43.6 Sulfur content (%): 0.77 Metals, vanadium: 2.5 Gasoline: 38.0 Intermediate distillates: 33.7 Gas oils: 20.5 Residual: 5.4
Original reserve	Volume of hydrocarbons at atmospheric conditions, originally available in a reservoir before beginning its commercial exploitation, and which is expected to be economically recovered through any exploitation method or system applicable to a specific date. It is the fraction of the discovered and economic resource which can be obtained since the beginning of the commercial exploitation until the end of its exploitation.
PEMEX franchise	Trading system through which PEMEX delegates the use of its trademark to individual or legal entities, and in which PEMEX provides technical as well as any other kind of assistance regarding operating methods, as established in the franchise concept legal framework.
Magna gasoline	Unleaded gasoline elaborated by PEMEX Refining with an octane number of minimum 87, and whose formulation has been modified to reduce its volatility and content of toxic substances or ozone precursors, like sulfur, olefines, aromatics, and benzene.
Premium gasoline	Unleaded gasoline elaborated by PEMEX Refining for engines which demand an octane number higher than the Magna gasoline one, and more constrictions in its content of toxic substances or ozone precursors such as olefins, aromatics, and benzene. Its octane number is of 93.



Petroleum coke (oil coke/petcoke)	Blackish product which is solid, porous, whose density is of approximately 1.2 g/cm ² . It is obtained from the thermal decomposition of high-molecular weight hydrocarbons found in the heavier or residual fractions from the oil refining process. Their most important properties are their heating power, sulfur content, ashes, and volatile materials. It is used as an industrial fuel; purified, it can be used as a reductant agent or on anodes in metallurgic processes, as abrasives, artificial graphite, pigments, fuel, among others.
Phase	Part of the system which differs, in its intensive properties, from another part of the system Hydrocarbons systems generally display two phases: gas and liquid. When oil comes mixed with water, it is separated into two liquid phases or, in two liquid phases and a gas one.
Pipeline	<p>Piping destined for transporting oils, gas, gasolines, and other oil products to storage, embarking, and distribution terminals; or from one plant and/or refinery to another. Its width varies between 2" and 48" according to their use, geographical conditions, and the weather of their location. There are different kind of pipelines depending on the product they transport:</p> <ul style="list-style-type: none">• gas pipeline• gasoline pipeline• oil pipeline• polyduct• jet-fuel pipeline
Plant liquids	NG liquids recovered in gas processing plants, mostly ethane, propane, butane, and natural gasolines.
Play	Group of fields and/or prospects in a given region, which are controlled by the same general geological characteristics (reservoir rock, seal, source rock, and type of trap).
Possible reserves	Number of hydrocarbons estimated to a specific date in traps not drilled, defined by geological and geophysical methods, localized in areas far away from producing ones, but within the same geological province, which can possibly obtain technical and economically hydrocarbons production, at the same stratigraphic level where there are proven reserves.
Primary recovery	Oil extraction by using only the natural energy available in the reservoirs to displace fluids through the reservoir formation towards the wells.
Probable reserves	Number of hydrocarbons estimated to a specific date, in drilled traps and not drilled ones, defined by geological and geophysical methods, localized in areas close to producing reservoirs in which it is considered there are probabilities to obtain, technically and economically, hydrocarbons production, at the same stratigraphic level where there are proven reserves.
Production fields	Fields with exploitation wells, that is, which are not plugged. Includes wells operating as producers or injectors, as well as closed wells with possibility to be exploited.
Prospective resource	Number of hydrocarbons assessed to a given date of accumulations which are not discovered yet, but have been inferred through geological, geophysical, and geochemical information available from the zone, and that are estimated to be recoverable.

Proven reserves	Volume of reserves measured at atmospheric conditions which can be economically produced with the exploitation methods and systems applicable to the time of the assessment, primary as well as secondary.
Recovery factor (rf)	Ratio between the original volume of gas or oil and the original reserve in a field, measured under the same conditions of temperature and pressure.
Refinery	Industrial facility where crude oil refining is carried out through different processes.
Refining	Group of chemical and physical processes to which crude oils are subjected in drilling works in order to convert them into products with desirable commercial features. To achieve these different methods are employed such as distillation (atmospheric and vacuum), hydrotreatment, hydrodesulfurization, catalytic reforming, isomerization, alkylation, production of oxygenates (MTBE and TAME), among many others which allow a better use of the hydrocarbons which form oil.
Refining capacity	Capacity per day of operation, not to the capacity per calendar day. The capacity per day of operation in a plant is the maximum volume which can be processed working uninterruptedly, while the capacity per calendar day considers the stoppages normally demanded due to maintenance and other events.
Reforming	Processing technique by which the molecular structure of a hydrocarbon is rearranged to alter its properties. The process is frequently applied to low-quality gasoline stocks to improve their combustion characteristics. When it is carried out through heating it is called thermal reforming, and when it is assisted through a catalyzer, catalytic reforming.
Region	<p>Geographic scope corresponding to the administrative division of PEMEX Exploration and Production. Regional offices are located throughout the coast of the Gulf of Mexico: Poza Rica, Ver. (North Region), Villahermosa, Tab. (South Region), and Ciudad del Carmen, Cam. (Northeast Marine Region and Northwest Marine Region).</p> <p>COMPREHENSIVE ASSET: Administrative subdivision of each region. Regions were restructured around their main comprehensive assets as follows:</p> <p>NORTHEAST MARINE REGION: Cantarell and Ku-Maloob-Zaap.</p> <p>SOUTHWEST MARINE REGION: Abkatun-Pol-Chuc and Litoral of Tabasco.</p> <p>SOUTH REGION: Bellota-Jujo, Cinco Presidentes, Macuspana, Muspac, and Samaria-Luna.</p> <p>NORTH REGION: Burgos, Poza Rica-Altamira, and Veracruz.</p>
Remaining reserves	Volume of hydrocarbons measured at atmospheric conditions, which remains to be economically produced within a reservoir to a specific date, with the applicable exploitation techniques. It is the difference between the original reserve and the hydrocarbons cumulative production to a specific date.



Reserves restitution rate (RRR)	Points out the number of hydrocarbons which are replaced or incorporated through new discoveries regarding those produced in a given period. It is the coefficient resultant from dividing the new discoveries between their productions during the analyzed period. It is generally referred annually and expressed in percentage terms.
Reservoir	Portion of a geological trap containing hydrocarbons, which is share by a system hydraulically interconnected, and where hydrocarbons are found at high temperature and pressure taking up the porous spaces.
Resource	Total volume of hydrocarbons existing in the subsoil formations It is also known as original volume <i>in situ</i> .
Secondary recovery	Additional extraction techniques used after primary recovery. This includes the injection of water or gas to keep the reservoir's pressure and facilitate the flowing of oil from the embedded formation towards the production well.
Service station	Physical space where the products manufactured by the refining industry are sold. Its characteristics may vary according to the image given by the station managers.
Tank car	Container designed to perform under pressurized or at atmospheric conditions assembled over a platform or directly over wheels to be transported over railways.
Topped crude oil	Crude oil from which it has been eliminated, generally by distillation, the lightest fractions like dry gas, liquefied gas, and naphtha.
Ultra-light crude oil	Crude oil whose density is higher than 38°API.
Unproven reserves	Volume of hydrocarbons and associated substances, assessed at atmospheric conditions resulting from the extrapolation of the features and parameters of the reservoir beyond the limits of reasonable certainty, or assuming future production scenarios based on technical or economic conditions which do not prevail at the time of the assessment.
Vacuum distillation	Crude-oil distillation process at vacuum pressure which is used as an intermediate step for extracting, from the atmospheric residue, the gasoil used as a load for FCC catalytic disintegration plants, and fractions to elaborate lubricating oils.
Vacuum gasoil	Distillate with relatively high boiling point, generally obtained from the vacuum distillation of the primary residue and from which vacuum light and heavy gasoil is produced; mixed with the heavy gasoil extracted from the crude-oil atmospheric distillation is used a load for catalytic plants.
Vacuum residue	Residue obtained from a vacuum distillation plant. It is the result of extracting the gasoils contained in the atmospheric residue from a vacuum distillation tower. It is composed by complex hydrocarbons with a high molecular weight and concentrated impurities like sulfur, nickel, and vanadium. Afterwards, this vacuum residue is converted into asphalt, bitumen, or in oil coke through refining processes.
Visbreaking plant	Process used in oil refining to obtain hydrocarbons with a low molecular weight such as gases, gasoline, gasoils, and low-viscosity residuals from high-viscosity residuals.

Viscosity	Resistance of a liquid to flow. A high-viscosity hydrocarbon, for instance, flows with difficulty, while the less thick ones are more mobile. Viscosity decreases with temperature.
Volatility	Tendency of a liquid to vaporize. Volatile substances release vapors at environmental temperatures. In the oil refining industry, this is a very important property of crude oils as well as of their products. Hydrocarbons blends like gasoline, can be classified as volatile since they contain components will evaporate easily. Thereby, their steam pressure is controlled, a determination which reflects the crude volatility as well as the volatility of its products.
Wells	<p>According to its objective or function, wells are classified as exploratory and development ones. Regarding their degree of completion, they are classified as drilled or completed.</p> <p>DRILLED: Wells which were drilled with a drilling rig and has already been concluded, and has already been cased and cemented, but it has not undergone the necessary operations which will enable it to produce hydrocarbons.</p> <p>COMPLETED: Drilled wells in which there has already been performed completion operations, such as: running the production tubing; firing bullets into the sides of the casing to allow the connection between the well bore and the formation; and cleaning and stimulation of the rock formation to allow the flowing of hydrocarbons.</p>
Wells record	Displays information of subsoil formations obtained by means of tools introduced into the wells, and which can be electric, acoustic, and radioactive. The record also includes information on drilling, mud and cut analysis, nucleus analysis, and formation proves.
Wet natural gas	Blend of hydrocarbons in gaseous form containing significant amounts of hydrocarbons heavier than methane and which can be commercially recovered, but is free from other components.



ACRONYMS AND ABBREVIATIONS

AAGR	Average Annual Growth Rate
AMDA	Mexican Association of Motor Vehicle Distributors
AMIA	Mexican Automotive Industry Association
ANPACT	National Association of Bus, Truck and Tractor-trailer Manufacturers
ASA	Airports and Auxiliary Services
ATG	Aceite Terciario del Golfo
BBCOE	Billion barrels of crude oil equivalent
BBL	Barrel
BD	Barrels per day
CENACE	National Center for Energy Control
CENAGAS	National Center for Natural Gas Control
CFE	Federal Electricity Commission
CNG	Compressed natural gas
CNH	National Hydrocarbons Commission
CNSNS	National Commission for Nuclear Safety and Safeguards
CONUEE	National Commission for the Efficient Use of Energy
CRE	Energy Regulatory Commission
DACG	General Administrative Provisions
DGAC	Directorate General of Civil Aeronautics
DOF	Official Journal of the Federation
Dpb	Dollars per barrel
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EPE	State Productive Enterprises
EPS	Subsidiary Productive Enterprises

GDP	Gross Domestic Product
HDS	Hydrodesulfurization
IEA	International Energy Agency
IEPS	Special Tax on Production and Services
IMP	Mexican Petroleum Institute
INEEL	National Institute of Electricity and Clean Energy
INEGI	National Institute of Statistics and Geography
IPP	Independent Power Producers
Km	Kilometers
Km/l	Kilometers per liter
LH	Hydrocarbons Law
LIE	Electric Industry Law
LIF	Federal Revenue Law
LORCME	Law of the Coordinating Regulatory Organs in Energy Matter
LPG	Liquefied petroleum gas
MB	Thousand barrels
MBCOE	Thousand barrels of crude oil equivalent
MBD	Thousand barrels per day
MBDCOE	Thousand barrels per day of crude oil equivalent
MMB	Million barrels
MMBCOE	Million barrels of crude oil equivalent
MMBD	Million barrels per day
MMBDCOE	Million barrels per day of crude oil equivalent
MMCFD	Million cubic feet per day
MMTU	Million British Thermal Units
MT	Million tons
MTA	Million tons per year
MW	Megawatts



n.d.	Not available
NA	Not applicable
NG	Natural gas
NOM	Mexican Official Standard
OECD	Organization for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
PEMEX	Petroleos Mexicanos
PEP	PEMEX Exploration and Production
PR	PEMEX Refining
PRODESEN	Development Program for the National Electricity System
RGD	General Distribution Grids
RNT	National Transmission Network
RP	Rest of the Country
SCT	Secretariat of Communications and Transportation
SE	Secretariat of Economy
SEGOB	Secretariat of the Interior
SEMARNAT	Secretariat of Environment and Natural Resources
SEN	National Electric System
SENER	Secretariat of Energy
SFM	Mexican Rail System
SHCP	Secretariat of Finance and Public Credit
SISTRANGAS	Integrated National Natural Gas Transportation and Storage System
SNR	Refining National System
TAR	Storage and Delivering Terminals
ULS	Ultra Low Sulfur
USD	American Dollars
WEM	Wholesale Electricity Market
WTI	West Texas Intermediate

CONVERSION FACTORS

Volume Amount	Base Unit	Conversion Factor	New Unit
1	cubic meter	6.2898104	barrels
1	cubic meter	35.31467	cubic feet
1	cubic meter	1,000	liters
1	million cubic meters	6,289.80	thousand barrels
1	million cubic feet	178.107	thousand barrels
1	cubic feet	0.0283168	cubic meter
1	Gallon	0.0238	barrels
1	barrel	42	Gallons
1	barrel	158.987304	liters

Energy Amount	Base Unit	Conversion Factor	New Unit
1	million tons of oil	40.4	MBTU (10 ¹² BTU)
1	ton of crude oil equivalent	41.868 x 10 ⁹	GJ (10 ⁹ Joules)
1	million tons of crude oil equivalent	41.868	PJ (10 ¹⁵ Joules)
1	metric ton of crude oil	7.3	barrels of oil
1	barrel of oil	5,000	cubic feet of natural gas
1	million cubic meters of natural gas	0.9	thousand tons of crude oil
1	million cubic feet of natural gas	0.026	thousand tons of crude oil
1	cubic meter of natural gas	8,460,000	calories (for purposes of dry-gas invoicing)
1	cubic meter of natural gas	8,967,600	calories (with a 1.06 calorific-value correction factor)
1	cubic meter of kerosene	8,841,586	Kilocalories
1	cubic meter of blast-furnace gas	8,825	Kilocalories
1	cubic meter of coke gas	4,400	Kilocalories
1	barrel of heavy fuel-oil	1,593,000	Kilocalories
1	ton of petroleum coke	7,465,500	Kilocalories
1	kilogram of LPG (domestic mixture)	11,823.86	Kilocalories
1	kilogram of LPG (imports mixture)	11,917.30	Kilocalories
1	ton of bagasse	1,684,990	Kilocalories
1	ton of coal	4,662,000	Kilocalories



1	ton of coal coke	6,933,000	Kilocalories
1	BTU	1,055.06	Joules
1	BTU	252	Calories
1	Calorie	4.1868	Joules
1	Kilocalorie	3.968254	BTU
1	Gigajoule (1 x10 ⁹ joules)	0.94708	Million BTU
1	Gigajoule	239,000,000	calories
1	Petacalorie	132.76	megawatts
1	watt-hour	3,600	Jo

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**References for comments**

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